

Newsletter 35 June, 2001

ORCHID USES: Further to the item in Newsletter 34, a short article co-authored by Len Lawler and Don was printed in *Orchids Australia*, June 2001. Two very good colour photographs show exactly why it is that orchid fibre is used to decorate artefacts: the *Dendrobium* yellow decoration on the armbands is still brilliant, approximately 80 years after they were made. Don received a complimentary author's copy of the magazine, which I have not yet had a chance to read, though I recently discovered I could borrow *Orchids Australia* from my local library. This publication is not confined to Australian orchids, but orchids is orchids, and there are area specific-cultural notes which members might find of use. Over a year, it would be possible to use their table as a base and build your own with variations to suit your own microclimate.

The following is one of the papers sent to us by Lyn Thompson. It was written by Peter Croft and is a report of guest speaker, Peter Metcalfe's, presentation, *Orchids of the New England Tablelands and Beyond*, to the Glen Innes Group in December, 1999. I quote the report in full as it is always worth hearing from a working orchid botanist, and the location information will interest the travellers among us.

Peter Metcalfe is a botanist who developed his interest in the discipline through native orchids, which he has been studying for over 40 years.

Orchids are normally classified by colour and shape but are now also distinguished by the different scents they produce for specialised pollinators. Orchid seeds are minute, they have no endosperm or any other tissues specialised for the storage of nutrients. They produce large numbers of seeds (like dust) – hundreds of thousands per flower. They have a similar number of pollen grains which, in most orchids, are aggregated into packets called pollinia. This is an adaptation to cope with the huge number of ovules present in the ovary. Pollinaria are the whole male structure of the flower, removed by the pollinator, which consists of a pollinium with some viscid matter smeared from the column. The pollinator comes along and takes all the pollen.

Orchids have a wide range of strategies to encourage cross pollination of their flowers. Pollinators include birds, beetles, moths, flies, ants, termites, bees and wasps. Moth pollinated orchids usually have pale white, cream or green flowers that produce scents at night to attract insects. Fly pollinated orchids have open fragrant flowers with droplets of nectar in plain view. Other orchids produce unpleasant odours that attract different fly species. These usually have dull purple or brown flowers.

Many native orchids are pollinated by bees in a simple relationship, while others mimic other flowers such as pea flowers. A further type of mimicry that is well presented in Australian orchids is attracting male insects to orchid flowers by the production of scents which simulate the sex odours released by female insects. The flowers have to fool the insects to enter the flower in a certain way to allow for the pollination mechanisms to work. Peter showed slides to illustrate these features on many different orchids as well as the general biology of the group.

*Dipodium punctatum* (Hyacinth Orchid) is a leafless orchid that does not undergo photosynthesis. It is a terrestrial orchid that survives by a close symbiotic relationship with mycorrhizal fungi. The fungus digests organic matter in the soil which is then passed on to the orchid; the fungus gets a safe home plus carbohydrates from the deal. To survive, the seed of this species had to fall where the fungus is present in the ground.

*Dipodium rosium* – Gibraltar Range

*Erythrorchis cassythoides* (Climbing Orchid, Rope Orchid or Bootlace Orchid) is found around Torrington and on the coast; it also has no leaves and forms an association with a fungus. It is usually found growing out of the base of rotting stumps.

*Gastrodia sesamoides* (Potato Orchid, also called Cinnamon Orchid due to the colour of the upside down flowers) is usually found growing under snow gums in our area.

The next series of slides were of *Cryptostylis* orchids. The generic name refers to the hidden stylus of these Bonnet or Tongue Orchids. All Australian species of *Cryptostylis* are pollinated by males of the Ichneumon wasp while these insects attempt to mate with the flowers. They are usually found in crevices in granite boulders in the district:

*C. subulata* – moist places in granite country on the Anvil Rock track and Waratah Trig track in Gibraltar Range National Park.

*C. erecta* – Bonnet Orchid, also on the Waratah Trig track.

*C. hunteriana* – Leafless Tongue Orchid, Granites Lookout in Gibraltar Range.

*Pterostylis* – Greenhoods. This genus is pollinated by male Fungus Gnats.

*P. longifolia* – has a hinge mechanism on the labellum.

*P. metcalfi* – this orchid was named after Peter and is found near Wongabinda.

*P. coccinea* (means red) and *P. elegans* are both found growing amongst snow grass on basalt.

*P. bicolor* grows on basalt, granite and trap in the area.

*P. hamata* (Hooked) and *P. rufa*

*P. woolsii* is a very impressive orchid which John Courtney has found growing on his property.

The next group of slides included *Acianthus* spp. (Pixi Caps and Mosquito Orchids) some of which are winter flowering, and *Spiranthes* (Ladies Tresses).

There are up to ten local *Thelymitra* sp. (Sun Orchids) in the general area, especially in Gibraltar Range where Peter has taken many photos of them including the Veined Sun Orchid.

We also have access to a wide range of *Caladenia* spp. (Spider Orchids). The Musky Caladenia has a very strong smell and is found growing under snow gums. *C. carnea* (Pink Fingers), a common orchid, has a labellum that leans over and pushes the pollinator against the stigma. Peter showed photos of Spider Orchids at Torrington and Gooniwiggall, flowering in September in granite country under Cypress Pine. *C. caerulea* is common at Kings Plains National Park.

*Diuris* spp. (Donkey Orchids or Double Tails) are often found on the south side of logs or trees where there is a moist microclimate that allows the seed and associated fungus to get together. It was interesting to note that Peter has not found any orchids growing under Oak trees (*Allocasuarina* spp.).

Some of the many other orchids that we were privileged to view included: *Chiloglottis* sp. (Bird Orchids), *Corybas* sp. (Helmet Orchids) which occur in sheltered sites near Xanthoreas on granite, *Prasoplyllum* sp. (Onion Orchids), *Calanthe triplicata* (Christmas Orchid), *Dendrobium cucumerinum* (Cucumber Orchid) which has a leaf that looks like a gherkin, *D. linguiforme* (Tongue Orchid), *Calochilus* spp. (Beard Orchids) and *Cymbidium canaliculatum*. This last mentioned grows in hollow limbs and forks in tree trunks and has stiff erect leaves that direct water to the roots of the orchid. We then looked at some examples of natural hybrids between species and even genera, e.g., *Glossodia* and *Caladenia*.

There are 260 species of orchid in the New England area of the State.

The day was finished with a cup of tea while viewing magnificent orchid photos mounted onto posters by John Courtney; we had a feast of orchids with two experts.

Doesn't it make you drool! Thank you to Peter Croft, Glen Innes Group, and Lyn Thompson.

Barbara Henderson confesses (8/3/01) – I'm still mad about ground orchids, and was thrilled when, among plants brought home from threatened property between Caboolture and Bribe Island, up popped a flowering stem of the brown-striped *Cryptostylis erectus*, with up to 9-10 flowers. Wouldn't you know, husband whippersnapping in that garden area got too close to this particular little group of Wallum plants, and the orchid stem was one of the victims! At least the precious *Boronia saffrolifera* survived. This sort of damage happens all the time here, his defence being that plants aren't marked, or I've extended the garden area and he didn't know – we have a permanent problem here keeping very healthy weed growth at bay.

Last season this *Cryptostylis* must have been doomed anyway. Friend at Coolum Beach, Sunshine Coast, has a back yard with council parkland between it and the local creek. Deb got permission to clean up the rubbish and use the bush area behind her place and neighbours' to relocate plants rescued from various developments. Her *Cryptostylis erecta* boasted 18 flowers, but fell victim to local wildlife digging for food. Oh well, at least we both had the pleasure of knowing the plants are in our gardens. We can only hope they flower again this Spring.

I still mourn the loss of so many little ground orchids to development in our Wallum and coastal Eucalypt woodlands. They just get cleared and built over without people even knowing what treasures they have buried, built gardens and mowed over.

In an area known as Lot 877 at Marcoola, opposite the 'Mt.Coolum Shores/Town of Seaside' development south of Coolum, the lovely *Thelymitra pauciflora* were present by the dozen last August/September. This area will hopefully become environmental park or maybe national park some day; the Sunshine Coast Environment Council has been campaigning for it for years. In fact, all this, plus portion 878, the Maroochy Airport and the township of Marcoola, and the developments, were once a national park, for just ten years. In 1958, at the request of the then Maroochy Shire Council, the State Government did a swap. We lost that marvellous wildflower area and swamp, and in return for a national part near Caloundra, the Mooloolah River National Park. It is still Wallum but different and harder to access. That is the way Queensland used to work, and things haven't improved much.

My cultivated epiphytes, mainly the Dendrobiums, cop it from those little orange beetles. We catch and crush a lot, but they often beat us and eat out new tips. The King orchids suffer, and they really love my mauve Crucifix (I know it's exotic but it is pretty). At the moment my Lily of the Valley (*D. monophyllum?*) has two (uneaten) flower spikes; a lovely dainty one this is. I 'inherited' an *Oberonia* which is presently boasting two long fresh flower spikes of a yellow shade. Such tiny flowers on it. It is probably *O. muelleriana*.

Another gift, a *Calanthe triplicata*, from way up our local creek, where I've never been, more's the pity, I eventually placed in my backyard "simulated creek-bed" and tree fern, etc., garden. This past Christmas it rewarded me with a lovely spike of white flowers. They have a "double story" appearance, and I was delighted with it. It is growing well, so must be happy.

Down in our big gully I once found *Sarcochilus ceciliae* on the rocks. That was nearly 20 years ago and I've never been down there since. As my gully-scrambling days are over, I probably won't get back to check out this beautiful little plant, sadly. The gully was rugged then; it must be worse by now.

In response to our last newsletter, Barbara wrote again at the end of March. I'd like to explain about the destruction of the populations of the *Phaius australis* on the Gold Coast. This occurred just prior to our Wallum and Coastal heathland Study Group weekend, and totally shocked many of us. Apparently it wasn't in conjunction with roadworks, but was a deliberate act of human vandalism, done for a specific purpose. The two populations of the orchid were found and noted during the preparation of the required E.I.S., and the facts made public through a newspaper report, complete with map. Members of the Gold Coast Environment Council were most distressed to discover every plant dug up, and all bulbs completely smashed. The possible (and probable) reason for such an act would be to make it appear that the original discovery of the plants was a figment of the imagination. Whoever was behind it, probably someone connected to the impending road development, could say that there weren't any of those orchids there at all. This does happen – if it appears that there could be some special plant/s in an area to be developed, plus some controversy, someone who doesn't support the conservationists, will clear the area, or the plants in question, then say, 'What plants were you talking about? We can't see what you are going on about?' Not much can be done after the plants are destroyed.

(Lynette Reilly, Queensland SGAP Conservation Officer also wrote: 'The vandalism of the *Phaius* seems to have been committed by people who don't want one of the other alternative routes.)

On the Sunshine Coast we had one developer of a sensitive Wallum-y area start clearing from the centre and destroy quite a lot until discovered. Don't lay blame on the roadwork contractors at this point. I don't think the roadworks have begun yet as negotiations are still going on in an effort to re-route the by-pass around vulnerable plant and water habitats. But it was indeed a dreadful deliberate act of man's disregard for our natural environment.

Regarding Pauline's bit about the *Geodorum densiflorum* plants and the law that prohibits removing ground orchids under threats of various types, I agree that the law is too rigid. It is supposed to protect our native orchids from the greed of collectors, many of whom actually belong to reputable orchid society groups. I have been told of such members completely taking patches of ground orchids they find. We generally keep any finds secret, even from Government authorities, unless we are absolutely sure we can trust the person we are sharing our find with. As for rescuing orchids from weed-spraying farmers and bulldozing developers, I think this sort of action should be more easily approved by Government. By the time we go through their official process, such areas are lost – I've told a Parks and Wildlife botanist that bulldozers move a lot faster than does officialdom.

However, some orchids can be very resilient. I'm sure I have told you about my *Spiranthes sinensis* which emerged in my rainforest garden started about 11 years ago in an old banana patch cleared from dry Eucalypt forest between 30 and 40 years ago.

That was one tough orchid coming up about 50 metres away from any others in the front garden, with the house and backyard in between. I do agree that I would have done the same as Pauline did and rescued as many of those *Geodorums* as I could. Sometimes the law, meant to protect, is very repressive and stupid.

What makes me very angry is that the law prevents us from our very small efforts to collect and grow, but before you know it, a bulldozer can clear the lot or a farmer can destroy an area. Remember that 20 years ago I remarried into a farming family, and have often had to sit on the fence in frustration. It hurts! Occasionally I have small successes, but it is a hard mentality to deal with, that attitude that all land must be economical; appreciation of natural beauty is a bit down the list. Then husband contradicts everything by bringing home some dear little Wallum plant in his lunchbox!

SEEDLINGS: All of the surviving *Dendrobium nindii* seedlings were tied to palm trees during the last week in April. I tied strips of pantyhose around the trunks, then threaded the tiny seedlings behind it, mostly three to a row. As might be expected, we had visitors, then went away for a couple of days and it stopped raining, so I lost a few more. We had unseasonably cold weather and one of the driest Mays on record, but we still have about 50 tiny plants in active growth. This would equate to about one third of the seedlings which came out of the flask and is considered to be pretty good.

The next report on these plants will be a fair way off when they are big enough to remove from the trees and distribute around the valley. In the meantime, we are bravely planning to go through the whole process once again.

