

"Orchid Conservation at Home"

(The Trials and Tribulations of a Novice Orchid Collector)

By Arthur C. Stafford

APPROACHES AND PHILOSOPHIES

The impelling force towards anything that challenges me, even life itself, is to take it as it comes, study it, work out a suitable solution for myself and others and then start working slowly at the resolution to any problem or new idea. I prefer to use the trial and effort approach and modify it as I go along. I draw up many plans and diagrams after much thought and research, but they are usually discarded shortly after I start the task and end up being used only as a far away target on the horizon. This usually leads one to fanaticism in a particular subject.

The construction of my first nursery was done in this manner and plants of all description were housed and watered as one, with no care to the requirements of individual plants. This approach was based on workload and the need for water-loss minimisation which is done by hand sprinkler as the bore water has a fair concentration of calcium and caused the first sprinkler systems to clog up quickly. It soon became apparent to me that not all plants needed constant attention. I began to grow nurseries as much as plants when I remembered that I was unlimited in the area I had at my disposal and larger constructions followed. The segregation of plant species began as did the leg work, however water use was better utilised.

Having spent my early years in the countryside I had forgotten the joys of this life through years of living and working in large towns and cities, but found that many land management practices had not changed. I despise waste and unnecessary damage being caused to anything in or on the land, inanimate or animate and do not suffer vandals readily. Land cleared for grazing, coal mining, industrial building (the list goes on) cause massive losses in our ecological environment. Other than to make speech about most things, there are very few laws that thwart environmental vandals despite what politicians and the so called "greenies" allege.

Pristine natural areas being stripped of their plants, in particular orchids, grass trees and ferns, is still rampant in this country and one can purchase any rare, threatened or endangered plant species if one knows where. There are enough of these plants being "legally" destroyed daily without any effort (or the manpower) on the part of the responsible authorities to utilise the benefit of collecting the plants and making them readily available to collectors and growers. This will not totally remove the indiscriminate activities of a few greedy people but will lessen their customer base. The idiocy of the vandal cannot be stopped nor can the actions of careless people trudging through precious areas without a thought in their head, treading on and knocking down any plant in their path.

I collect only those plants that have been naturally or otherwise, brought to ground and if the plants are suitably vigorous when found, secure them in a similar manner to that in which they were originally growing and readily at hand so that I can keep a check on their progress. This ensures a ready supply of seed to mother nature for growing new plants with some minor removal by me, for

my purposes. Of the plants that I recover, trimmings-off and the plants that are weakened or damaged, are potted on; some for sale and others for re-planting in the milieu at a suitable time.

MY HOME

Twelve year ago I purchased this property which originally formed part of an adjoining larger cattle property. I had been, for the previous twenty-eight years, an employee of our State Government in the service of the public good and resigned to preserve my sanity. I needed the peace and quite of the bush away from any and all forms of civilisation. I needed a new and invigorating occupation. I now call it home.

My home is a big place. It consists of a twenty-two hectare block, a large shed converted for living in, six nursery shade houses and my backyard is an area covering about a thousand hectares. This part of the country can be described as dry sclerophyll with minute remnants of "wet" micro-habitats in the surrounding ranges. Most of the land has been cleared for timber and grazing and the original composition of trees and plants has been severally depleted. However, sufficient individual species remain to give an idea of what the country was like before human intervention. The many surviving plants were unknown to me so I collected specimens and took them to the Herbarium for identification. Among them were many species of orchid and ferns. I planned to return my country to it's original natural condition as near as possible and incorporated my fencing, lanes and other activities into this plan.

My property has a seasonal stream running through it from South to North and two dry gullies running into that from the West. These stream beds were heavily infested with exotic weeds such as Lantana, Cotton Bush, Bathurst and Noogoora Burr, Cobblers Peg, just to mention a few. Many feral deer reside in these almost impenetrable places along with feral pigs, cats, foxes, dingoes, hares and rabbits. This is also the case for the nearby properties and is also a widespread problem throughout this area.

ENVIRONMENTAL CONCERNS

I had been informed prior to purchase that this area received a regular annual rainfall of twelve hundred millimetres and this appeared so when I first viewed the property prior to buying it. It was lush and green and there was water flowing in the creek. However, as the years passed I soon saw the folly of this statement and we, along with rest of the country, went into long years of severe drought.

I had two sub-surface bores drilled to supply water for my animals and the nursery but they went dry on regular occasions during the drought years. I had purchased a twenty thousand litre water tank and placed it on a slope above one bore and pumped it full and used gravity fed water to the nurseries. I also constructed a corrugated iron sheet "water collector" down the slope above it.



This device is almost as good as a bore during a wet period as it collects every drop of rain or dew that falls on it and feeds it into the tank, greatly supplementing the dwindling supply from the bore. Other

tanks store rainwater from the roof of the shed and back-up the main tank supply as well as providing water for domestic use.

I also installed a thermometer and rainfall gauge in a clear and open area and commenced keeping records for future reference. Outside temperatures over the intervening years showed that we went from fifty-one degree celsius in Summer to minus six celsius in Winter every year. The theory behind putting the thermometer in the open was that, that was where the plants and my work environment were. Rainfall averaged over ten years was only six hundred and twenty millimetres per annum.

EARNING AN INCOME

I had decided to regenerate this property with as many of the local trees and plants as I could and I set up a nursery area and commenced to learn the art of collecting seed and growing plants. Other than growing vegetables for the family previously, I had no idea on how this was to be achieved with success. I made contact with Greening Australia and with their guidance and the purchase of many propagated plants, I began working towards this goal. It was not long before I had more seedlings than I could handle from my own growing efforts and it was suggested I go to the local weekend community markets and sell the excess. After ten years of trying to convince people (with minimal success) that native plants, (especially the local ones) are the best to plant, I still attend the markets and have a fair following of people who buy regularly as well as many tourists (local, interstate and overseas) who stop and usually buy a native fern or orchid. I also utilise the Internet and conduct a small amount of business in orchids and ferns through it.

To make an income in the beginning, I purchased and raised poddy calves, turkeys, peacocks and poultry for growing-on and resale. Disease and wild dogs ruined this effort within a few short years. As I became more involved in orchid growing I also began to produce my own charcoal to put in my own potting mix. This also became a means of additional income through sale at markets and through the Internet.

FIRST ENCOUNTER WITH NATIVE ORCHIDS

In order to gather more data on the local species I was given permission by my neighbours to wander their holdings and collect plants and seeds in exchange for information on the plants identified and as a security measure for their unoccupied properties. I began covering a thousand hectare area on recurrent daily walking trips along streams, across grazing lands and into gullies.

On these trips I noticed that there were a large variety of plants growing in and on trees and along creek embankments and hillside slopes that I had not seen before. Collections submitted to the Herbarium soon revealed these mysterious plants as native orchids and ferns.



I also saw that a lot of these plants were lying on the ground under dead trees and on broken-off tree branches. As well, a lot of damage was being done by cattle and wild animals travelling down the sides of slopes and the creek banks and a lot of these plants were being eaten, buried or squashed. I began bringing them into the nursery and being aware of the laws of this State with respect to possessing native plants, I contacted the Environmental Protection Agency and after a visit and short tour by their Officers, I was issued with a Permit to Propagate.



In the beginning I fastened salvaged orchids and ferns to trees along the creek and on its embankments on my property. I also planted ferns and other plants along the upper levels as well as hundreds of seedlings in paddocks adjacent to the creek. Oh! How foolish the unwise. Wildfires soon took care of most of them that remained, after the native animals had eaten their fill and what survived that onslaught were wiped out by heavy frosts. I have since adjusted my planting program and am achieving a good success rate.

During December 2011 and January 2012 a number of severe floods along the main stream and side gullies took a lot of soil from the sides and swept away large numbers of trees along with the orchids and ferns I had placed in them. These same floods caused major damage in the surrounding ranges and many trees were brought down and died. Most of these trees are covered in small orchids slowly perishing as I have not been able to rescue any significant amounts to date.



It was not long before I had amassed a collection of salvaged local orchids but my health deteriorated and I had to undergo a number of operations. As there was no one to look after the plants on hand I disposed of the majority to dealers, with the orchids going to a collector before going into hospital. This included my own collection of *Cymbidium canaliculatum* in which there were many different colours, sizes and shapes.

However, perseverance and persistence with the aid of some recent good seasons and a growing knowledge and better health, I am slowly making headway with my project and I am again salvaging any downed orchids I find.

The native orchids I have collected so far and which have been identified by the Herbarium are:

<i>Cymbidium canaliculatum</i>	(Channel Leaf Orchid)
<i>Cymbidium suave</i>	(Snake Orchid)
<i>Dendrobium gracilicaule</i>	(Tiger Orchid)
<i>Dendrobium X gracillimum</i>	(A natural hybrid)
<i>Dendrobium monophyllum</i>	(Lily-of-the-Valley Orchid)

Dendrobium speciosum var. *hilli*
Dockrillia bowmanii
Dockrillia linguiformis
Dockrillia teretifolia
Plectorrhiza tridentata
Rhinerrhiza divitiflora
Sarcochilus ceciliae
Sarcochilus dilatatus
Sarcochilus hillii

(King Orchid)
 (Scrubby Pencil Orchid)
 (Tick Orchid)
 (Bridal Veil Orchid)
 (Tangle Root Orchid)
 (Raspy Root Orchid)
 (Fairy Bell Orchid)
 (Brown Butterfly Orchid)
 (Cockleshell Orchid)

MY PASSION

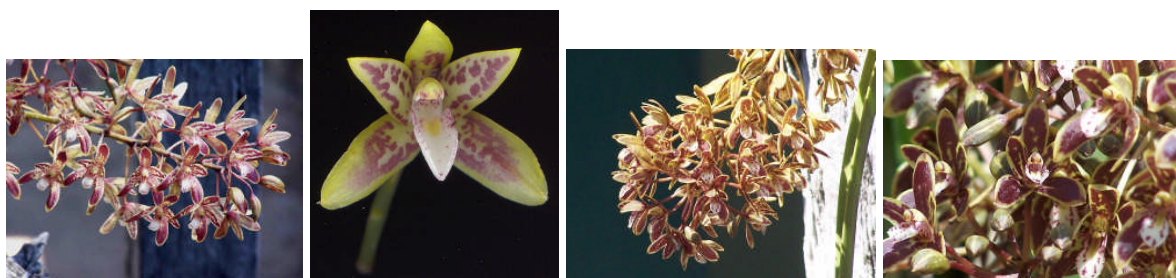
Of these orchids my favourite by far, is the *Cymbidium canaliculatum*. I have become fascinated with this plant because of its many varied sizes, shapes and colours and the number



of different trees it uses as a host: Silky Oak, Yellow Cedar, Spotted Gum, and Melaleuca being some of the trees I have seen them thriving on. Whilst the others are spectacular in their own right, the Channel Leaf is, in my opinion, the most rewarding. It is a very hardy plant handling the fluctuations of weather, abuse and neglect with ease and responds graciously to kindness and good conditions.



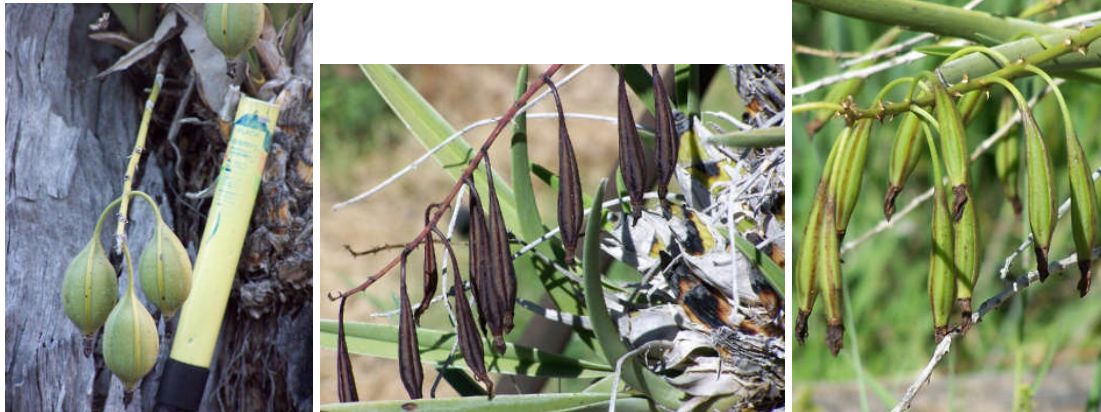
After removing the plant from a downed tree or branch, they are brought into the nursery and have their roots cut off clean to the pseudobulbs. They are potted up using charcoal and a coarse palm fibre mix, watered well and placed in a bright sunny place in the open for about a month. They are then put in a lightly shaded nursery and left to stand for about twelve months with watering dependant upon the climate. The plants if mature, flower that first season.



In the flowers I have found shades of yellow, green, khaki, pink and a host of variance between petals, sepals and labellum. Also conjoined flowers that make an usual double display.



Not only do these delightful plants come in different colours there are other characteristics that mark them as individuals such as different shaped and coloured seed pods. The yellow coloured flower produces a small round green pod, the one I regard as being the "normal" colour has elongated pods which are purple and the green flowered plant has elongated green pods.



I have tried a number of different methods of growing our native orchids artificially after much reading of relevant material, searching the Internet and asking questions of knowledgeable persons. I commenced experimenting with the various common techniques, selecting properly fertilized seed from my own plants and wild stock.

First there was the use of mother plants - suitable pots were prepared and seed sown - the results were rather poor.

Growing in glass phials on nutrients - much success in starting the plants with minimal viral fungi but poor results with deflasking.

Having it professionally grown - poor return for the amount of seed and expensive with little successful result after potting out.

After further contemplation and checking on how the plants grew in the wild, I experimented with various timbers and sawdust. The most successful method came from an unexpected source about four years ago. I found a long downed tree trunk which had sprouted over a hundred individual seedling plants, quite nearby to the nursery on the creek. I took these seedlings, which would have been ultimately devoured by marauding animals, and potted them up with almost a hundred percent success. I also took a portion of this timber and placed it in the nursery and I have been growing them successfully ever since. I looked to the other varieties of orchids after this and methods to grow them in a similar manner. This has not been successful so far but I will continue to experiment. If I am fortuitous in this endeavour, it will allow more sustainable orchids into the market place and should, I hope, lessen the impact upon our wild plants.



One cannot talk about the Channel Leaf Orchid without mentioning one of the great curses to them and other native orchids. *Stethopachys formosa*, the notorious Dendrobium Beetle which, although a native and indigenous to our area, is a real scourge with only one real effective way of being dealt with - catching and squashing. It usually first appears as a white foamy mass at the base of the pseudobulbs and progresses through to become a slimy slug which makes an absolute mess of flowers and seed pods. After it pupates and becomes the well known orange and black beetle, it continues its attack by eating leaves, pods and flowers of any nearby species.

Most of my friends and relatives run away with their hands over their ears when I start talking about the Channel Leaf Orchid and claim that I'm obsessed with them. They love the plants when they are in flower but claim I'm turning into a lunatic because of them. Maybe I'm just a fanatic?