

Drosophyllum lusitanicum



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Drosophyllum lusitanicum



Drosera browniana



Pinguicula laeana



Drosera microphylla



Drosera praefolia



Drosera prostratoscaposa



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Drosophyllum lusitanicum

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Journal articles, in MS-Word, ready for publication, may be Emailed to the Editor or Secretary.

Meetings

Most VCPS meetings are held in the hall at the rear of the Pilgrim Uniting Church on the corner of Bayview Road and Montague Street, Yarraville – Melway map reference 41K7. These meetings are on the fourth Wednesday of the month at 8 PM.

However, some meetings may be at the home of members during a weekend. Details of meeting dates and topics are listed in each journal.

If unsure of the location or date of any meeting, please ring a committee person for details.

The VCPS Annual General Meeting, usually held at Yarraville in June, provides substantial benefits for each and every member able to attend.

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June 2007

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Cephalotus follicularis in the wild. Photo: Richard Nunn

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Seed Bank

We now have a huge collection of NEW fresh CP seed available, and our seed list has become quite extensive.

With over 250 varieties of CP's, we are now providing the list in PDF format on our website, www.vcps.au.com.

The new seed consists of over 200 types of *Sarracenia* species and hybrids, *Darlingtonia* seed obtained from the US and *Drosophyllum*.

Seed was collected from plants late 2006, so be quick, while stocks last. For inquiries or to order seeds, please contact our Seedbank Officer.

The articles that are found within are copyright but can be copied freely if the author and source are acknowledged. The views are of the authors and are open to review and debate. Please send all material to the editor for consideration to be included in our quarterly journal.



FRONT COVER:

Drosophyllum lusitanicum
in Cerca Ubrique.

Photo: Stewart McPherson

BACK COVER:

Clockwise from top left:

■ *D. lusitanicum* habitat in Cerca Ubrique.

Photo: Stewart McPherson

■ *D. lusitanicum* flower close up.
Photo: Stewart McPherson

■ *D. lusitanicum* in flower.
Photo: Stewart McPherson

■ *Drosera microphylla* "Orange flower". Grown and photographed by Stephen Fretwell

■ *Drosera prostratoscaposa*.
Photo: Stephen Fretwell

■ *Drosera praefolia*. Grown and photographed by Stephen Fretwell

■ *Drosera browniana*. Grown and photographed by Stephen Fretwell

■ *Pinguicula laeana* (Centre).
Grown and photographed by Sean Spence

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MEETING TOPICS & DATES for 2007

VICTORIAN CARNIVOROUS PLANT SOCIETY

This year we have scheduled the following discussion topics, and events:

January	(14th)	New Year BBQ, <i>Darlingtonia</i> , <i>Dionaea</i> .
February	(28th)	<i>Sarracenia</i> species and hybrids, beginners night.
March	(28th)	<i>Nepenthes</i> and <i>Heliamphora</i> .
April	(25th)	<i>Drosera</i> , video and information night.
May	(23rd)	Growing conditions, pygmy <i>Drosera</i> gemmae collection, 'best' and 'worst' plants.
June	(27th)	AGM, plant give-away, any CPs.
July	(25th)	Seed growing and tissue culture, potting demonstration, any CPs.
August	(25th)	Meeting at President Stephen Fretwell's House 12pm. Tuberos/Winter growing <i>Drosera</i> , show preparation, displays, and companion planting.
September	(26th)	<i>Cephalotus</i> , <i>Brocchinia</i> , <i>Catopsis</i> and swap night.
October	(28th)	Field trip to Triffid Park, any CP's.
November	(28th)	<i>Byblis</i> , pygmy <i>Drosera</i> , <i>Drosophyllum</i> , <i>Genlisea</i> , <i>Pinguicula</i> , <i>Roridula</i> , <i>Utricularia</i> .
December	(TBA)	Annual show at Collectors Corner.

Please note: All meetings, other than those where a specific venue is given, will be on the FOURTH WEDNESDAY of the month in the hall of the Pilgrim Uniting Church in Yarraville – corner Bayview Road and Montague Street, Melway Map Reference 41K7.



A mature 2 year old plant of *Drosophyllum lusitanicum*.

Photos: Peter Bloem

Growing *Drosophyllum lusitanicum* from seed

PETER BLOEM.

I've been growing *Drosophyllum lusitanicum*, commonly known as the Portuguese Sundew, on and off now for a number of years. Once you are aware of its basic growing require-

ments, it is an easy plant to grow and maintain in your CP collection.

Its native habitat is along the dry coastal hills of Portugal, Spain and Morocco. It grows on free draining, sandstone rocky outcrops. Little rain falls in the area, but it has been observed that morning fogs roll in from the sea

providing moisture for the plants.

Its filiform leaves are covered in sweet honey-scented droplets of mucilage that seem to attract more insects than any other CP in my collection. Flying insects alight on the leaves and in their struggle to get free, roll down the leaf and become completely engulfed in mucous and suffocate. Smaller digestive glands along the leaf blade take over and the nutrients of the prey are absorbed into the leaves.

To add this plant to your collection, you will need to start from seed. Propagation by root and leaf cuttings is not possible as they will not strike. The roots do not like to be disturbed, so the plant should be potted up once only. For a while it was believed the planted pot could not be moved. I have taken my *Drosophyllum* plant to the VCPS show and survived the 2.5 hour round trip during which it was well secured in an upright position! It was also believed that plants could not grow side-by-side in a single pot but this is also incorrect. The stronger plant does not kill off the weaker ones around it. The only problem that I have experienced is a high mortality rate of seedlings in the first few months.

To germinate the seed, I hold the seed between my finger and finger nail and run it over some fine grit sand paper. You should notice that some black remains on the sand paper. I then drop the seed into a jar of hot tap water, which helps soften the waxy coating. Allow the seed to soak in the water for a few days and then sow them in a small punnet on a mix of wet peat and sand and cover to maintain humidity. Keep the compost moist.

Some growers have had success by soaking the seed in a weak solution of gibberellic



D. lusitanicum growing in its natural habitat in Cerca Ubrique. Photo: Stewart McPherson



Drosophyllum seedlings germinating 6 weeks after being sown in late December.



A young seedling 5 months after being sown.



Seedlings; shortly after being repotting into their individual and permanent pots.



Adult plant grown from seed.



D. lusitanicum 2 year old plant, forming the traditional woody stem as it ages.



A Close-up of D. lusitanicum flower. Which generally measure 3.5-4.5cm in diameter.

acid a couple of days before sowing. This will give you reasonably quick germination in around 2-3 weeks. I have also had good results without treating the seeds at all, but germination can take from 2 weeks to several months.

While the seed is being soaked, prepare a 150 mm (6 inch), or larger terracotta pot. Place some sphagnum moss in the drain hole, as a wick, and fill the pot with a mix of 1 part potting mix (without hydrating crystals), 1 part coarse sand and gravel, and 1 part orchid bark. Slightly mound the centre of the pot to prevent water pooling around the stem. Sit the pot in water and allow the pot and mix to become wet.

Monitor the seeds and when germinated, carefully scoop out the seedling and place into the prepared pot. This method allows you to position the plant in the pot where you would like it to grow. One or more plants can be potted up in the same pot. Just remember that the leaves of a mature plant will extend out to about 20 cm. Lightly spray the seedling into position and cover with a glass jar or plastic dome. Keep the pot sitting in 1-2 cm of water and out of direct sunlight. When the juvenile leaves reach 10-20 mm, gradually raise the dome over a couple of weeks to harden up the leaves.

After 2-3 weeks the dome can be completely removed.

From this stage onwards I have a high survival rate. It takes practice and patience to get the combination of increasing sunlight and decreasing water levels just right. A good indicator is when the surface of the growing medium is slightly moist. You may need to monitor the plants daily, until the roots have developed into the pot – on a hot windy day the pots can quickly dry out and the plantlets can wilt and die. As the

plant matures and more leaves are produced, you can easily see when the plant needs water. When the mucilaginous dew-drops start to dry up, it is time to water. I usually water by tray method and not from above.

When mature, the plants like full sun and I water once a week in a deep saucer, sometimes twice a week in hot weather and when the plants are flowering. The potting medium can completely dry out and occasional overhead watering will not harm the mature plants at this stage. *Drosophyllum* can be grown outside as long as they are protected from frost and don't get water logged from heavy rain.

Large yellow flowers are produced from early to mid summer that open for one day and self-pollinate. Branches will start to form after flowering, and more flower scapes may develop. Last summer my plant produced four flower scapes and flowered over a 3 month period. In cultivation the plants will generally live for a couple of years. With age they develop woody stems and a tangle of dead leaves around the base with a crest of a dozen or so of green living leaves.

I can often smell the sweet honey aroma as I walk into my greenhouse, letting me know that my *Drosophyllum lusitanicum* is



D. lusitanicum with multiple flowers open in early November, a rare occurrence.



D. lusitanicum in February coming to the end of it's flowering season.

Carnivorous Plants

Allen Lowrie

Drosera, tuberous Drosera, tropical perennial Drosera, pygmy Drosera, Cephalotus, Utricularia, CP seed, Orchids and Trigger plants.

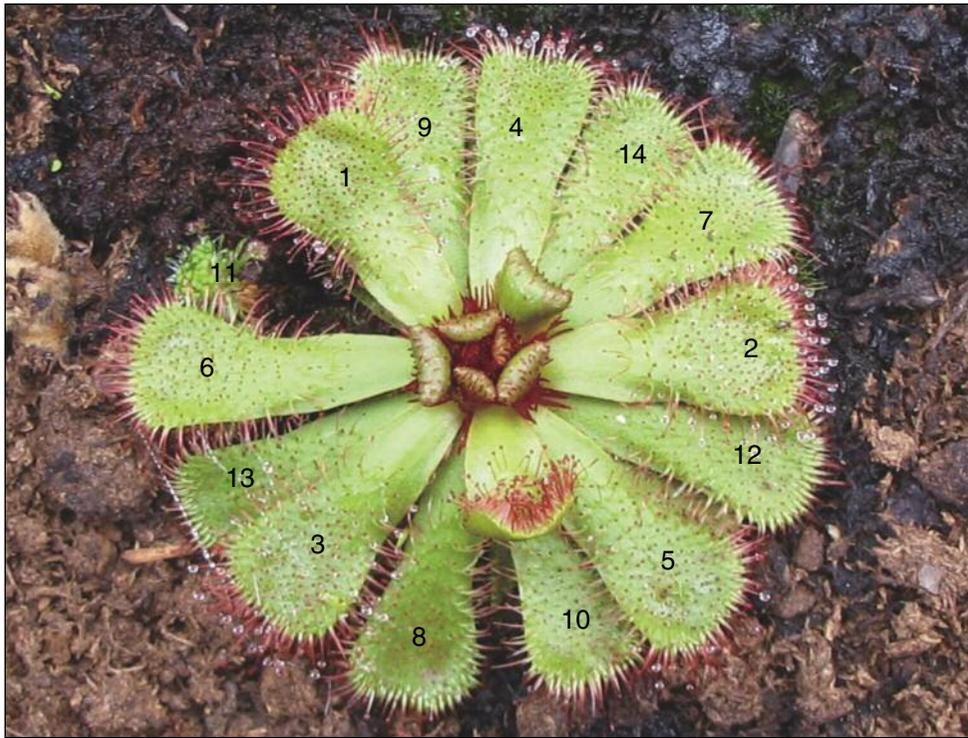
*Tuberous *Drosera* sold when dormant Nov-late March.

*Pygmy *Drosera* sold as gemmae (vegetative buds) over 3 months. May-June.

Allen Lowrie, 6 Glenn Place Duncraig, 6023. Western Australia

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Please inquire about Catalogue.



***Drosera slackii* (leaf 11 missing, older leaves are rotated anti-clockwise from 180 degrees, which is the opposite of the above plant!)**

Photos: Peter Wolf

Leaf arrangement in rosetted carnivorous plants

PETER WOLF

Have you ever looked at a rosetted carnivorous plant and thought: “Wow, the entire circle is covered with leaves! How does the plant know where to put the leaves? Why don’t they overlap much?”

The way the plants arrange their leaves is not random but follows a very clever yet simple rule. Before continuing,

let me say that this topic is undoubtedly covered somewhere in an elementary text on plants and in a more scientific manner. However I thought highlighting what occurs would make an interesting article, considering that the relevant information would not be well known.

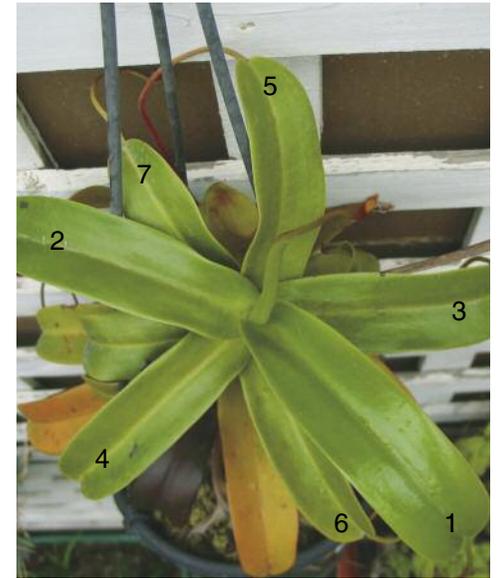
If you examine a rosetted CP you will notice that the newer leaf is formed opposite the original (180 degrees rotation) plus rotated further by “a bit”. This

extra “bit” is the width of a leaf of that particular plant. So, a rotation of approximately 190 degrees from the original leaf is typical. Every rosetted CP that I’ve checked follows this pattern whether it be a *Pinguicula*, *Drosera*, *Dionaea* or *Nepenthes* although there are probably exceptions.

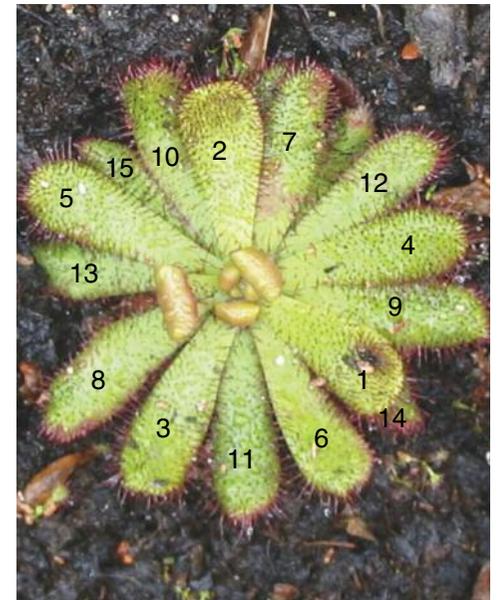
It turns out that this simple rule has many advantages. Firstly the leaves do not start overlapping until most of the circle is covered. The benefit of this is that the older leaves are covered first. Secondly the leaves are arranged in a symmetrical manner, so you don’t get one side of the plant heavier than the other and tilting away from the light. This is ideal if you are a rosetted C.P. because you don’t want to waste the precious light that could be utilised for photosynthesis. My guess is that this pattern of leaf growth occurs amongst most rosetted plants and is probably something that evolved a very long time ago. In the CP world it is prevalent due to the large number of rosetted CP’s.

One thing that I find curious is how the plant knows the width of its own leaf. In some plants such as *Drosera peltata* the width is determined by the lamina, with others it is determined by the width of the leaf base. Another interesting thing you will observe is that some plants arrange their leaves in a clockwise direction, others anti-clockwise. The same clones seem to stick to the same direction, however different clones may go in different directions even within the same species.

Pictured are some examples of rosetted CP’s with numbered leaves so that you can get an idea of how the rule works. The leaves are numbered from youngest to eldest. These plants don’t have a brain but the way they do some things is very smart!!!



***Nepenthes ventricosa* (older leaves are rotated anti-clockwise from 180 degrees).**



***Drosera hamiltonii* (older leaves are rotated clockwise from 180 degrees).**



The finished product – my now operational greenhouse, up and running. Photos: Dave Banks

Greenhouse Inspiration:

How to build a fully equipped greenhouse for less than \$2500 – Part 1

I'm going to begin this article by asking you a question; Have you ever found yourself seriously thinking about building a greenhouse for your CP collection but didn't know where to get started?

Well that was me until just recently, thinking that a greenhouse would be a great way to improve my CP collection but I just didn't have enough info to make a confident start. It's my hope that by telling you this story you will have enough confidence to get started on your own greenhouse. I know when I finished building mine I was able to eliminate my most annoying CP problems,

my plants began to grow like mad and I can now go on holiday without stressing if the plants are going to be ok.

The very first step was to find someone who had a successful, working greenhouse designed specifically with CP in mind. As they say "A picture paints a thousand words", but seeing it first hand, well that's priceless. However this proved quite difficult at first because Perth doesn't have a CP club and that meant no easy way of finding other enthusiasts, but after a long and exhausting search I managed to find a guy called Phill who is only a few hours drive south of my place.

Now Phill doesn't usually invite strangers to his place but the gods must have been favouring me that day because Phill had some spare time for a guy who seemed as excited as I was. And Oh boy was Phill's set up great! Walking through the door to his greenhouse was like stepping into a lost world full of swirling mist and lush green moss and plants. I was in heaven, taking note of how everything was put together, asking lots of questions, and seeing just how well the plants grew in this lush environment was enough to make me drool.

I could go on and on about what I saw but I'm sure you really want to know how to build your greenhouse. That way you get to experience what I saw, first hand, as your plants are immersed in their own lost world. I can tell you if the set up is right you won't ever have to buy sphagnum moss again, you can simply harvest it off the floor and benches.

After seeing Phil's set up I knew that if I wanted to put the greenhouse on automatic pilot and know it would not only survive the summer heat without constant vigilance, but it would flourish, I would need the following components:

- An evaporative cooler to help keep the whole lot cool and increase the humidity.
- A thermostatic controller to switch the cooler on when the temperature increases.
- An automatic retic timer capable of running anywhere up to 12 times a day for 1 minute.
- A roll of retic hose, various fittings and misting sprays.
- A humidifier; this unit sits in a bucket of water and requires a method of automatically topping up the water level so:
- A float valve was needed
- A large bucket approx 50 litres;
- A timer for the humidifier;
- An automatic vent; and
- A power board.

(Not included on this list are various nails, screws, tools and extras I needed as the project proceeded. I took an educated guess for these things and anything I missed meant a trip back to Bunnings. I must have made 3 or 4 trips before I finished the project!)

Now I knew what had to be done to make the greenhouse an ideal environment for my CP. For me this was the biggest hurdle to getting started; this meant I was now confident enough to draw up some plans.

All good plans start with a good working diagram and so began the search for a picture of a timber frame; this is where I found the internet invaluable. By doing a search on the term "Greenhouse design" I was able to find a website which gave me what I was looking for. From there I could successfully work out dimensions to get a good idea of what would be a nice sized greenhouse for my back yard.

Type this link into your internet browser, and on page 5 of the document you will find the drawing I used: <http://www.greenhouseconstruction.com/Cap%26TrimInstall.pdf>

Armed with my diagram and list of requirements I could now start piecing the greenhouse together on paper to get a fairly good idea of how it would all fit. It was at this stage I calculated the lengths and angles for the timbers, and how much plastic film and shade cloth would be required to fit the finished frame. The other bits and pieces like the shelving and retic were estimated at this stage as I could get the materials slightly oversized and fit them in situ once the frame was finished and the plastic had been fixed in place.

I knew from prior research that buying pre-manufactured greenhouse frames was an expensive option and restrictive if you wanted different dimensions. So I knew I could dramatically cut costs by choosing second hand wherever possible plus I could make it a size that suited me. In fact I was able to complete my entire greenhouse, with all the internal bits and pieces, for less than what I was being quoted for a pre-made frame and cover.

By this stage you should have worked out the lengths of your timbers, plastic, shade cloth, shelving dimensions and roughly worked out lengths for retic, so now is the time to find your materials.

Looking in the local trading paper I found a guy who sold second hand 3x2 jarrah timber for \$2 a meter which I could cut to length; the whole

lot worked out to be \$200 ... very nice! I sourced a serviceable security screen door at the dump for \$15, for which I was about to offer \$20 so I'm glad I kept my mouth shut! I sourced a second hand evaporative cooler at trashies for \$60. I could have bought cheaper privately but trashies give a short guarantee so you can return items that don't work. As it turns out I was going to buy two because I wasn't sure how effective having only one unit would cool at temps in the high 30's and into the 40's but the second identical unit was \$90???? I know, I know, I don't understand either but the guy in the store was adamant he wouldn't take anything less so I left it with him. As it is, the single unit has, so far, proven to be adequate in cooling my 4m long x 2.4m wide x approx 3m high (at the apex) greenhouse.

I found a thermostatic switch at my local hydroponics store and the timer came from Bunnings. The humidifier was a little more difficult as I had to first find a shop that sold them, Total Eden, but I had to order it in, I also bought my retic equipment from them along with my retic timer. Finally, by making a few phone calls, I found a greenhouse supply shop that sold the plastic film, automatic vent and a special reflective shade cloth I was looking for all in the same shop.

For those of you who don't know, there is a type of shade cloth called Aluminate that looks like it's made from thin, woven aluminium strips. Its shiny surface reflects the light and helps reduce the temperatures inside the greenhouse. I've found it to be great as the temperatures outside have to rise significantly higher, compared to normal shade cloth, before the evap cooler needs to switch on. I'm sure I would have needed both evap units if I had not used the Aluminate.

I used 50% rated shade cloth as *Sarracenia* will not do well under higher shade levels, and during the process I discovered that 50% is the lowest shade cloth produced. From what I found shade cloth only comes in 50, 70 and 90% shade.

The automatic vent is operated by a wax cylinder and begins to open at around 20 degrees Celsius but I've decided not to attach it yet but instead I've left a triangular flap, in the plastic film, open near the roof apex to allow

excess heat to escape when the temps really rise. I am yet to experiment with this vent as I want to keep the humidity higher during the Perth summer without raising the temps inside the greenhouse to dangerous levels.

I was fortunate with the plastic film because the guys at the shop had a remnant role at the length I needed and I was able to purchase this at a discount that helped to reduce costs further. Bonus!

I found the most difficult step in this whole process was working out the angles for the roof and therefore the correct lengths of the rafters and the placement for the timber that formed the top of the door frame. I decided I didn't want the walls the same height as the top of the door frame because the only place you need to stand up is in the middle of the greenhouse. As the door frame was taller than the walls this meant I had to do a bit more work with the calculator, but to make life easier for yourself you could simply make a triangular roof frame to sit on top of a rectangular frame the same height as your door.

To begin building the greenhouse I decided to use the security door as my starting point. This way I could concentrate on getting the frame for the front of the greenhouse correct. I knew that once it was up everything else would flow easily from there, much like a jigsaw puzzle. The idea being once you have the border done the rest is much easier and it all falls into place ... ignoring the missing piece that I know some of you are automatically thinking of right now!

I have taken photos at each step along the way in an effort to show you how I put the frame together and make it easier for you to follow what I did.

I used a 35 degrees pitch for the roof for strength and the extra height would allow space for the retic and places for *Nepenthes* in hanging baskets. Having the extra volume of air inside meant that the temperature would not fluctuate wildly during the day. You may notice, from some of the photos, the small greenhouse behind the door frame of the new greenhouse. I purchased this little click together unit from Bunnings in a vain effort to keep my plants out of

the notoriously gusty and drying Perth winds as my pots and water trays were constantly filled with nutrient rich dust and debris from my near vacant back yard.

Perth is one big sand pit and, as I have built a new home, the backyard is in dire need of soil enrichment. Consequently the soil I've imported has broken down into a fine, nutrient rich dust that is easily whipped up by the gusty winds only to be deposited on my collection of CP's and inside the house through any open windows and doors.

The dust was totally smothering my *Drosera binata* and I was concerned it would poison my plants so it was hoped that this little 1.6m wide x 2.4m long metal tube and plastic covered greenhouse would protect them. As it turned out, due to its small size, the temperatures had a nasty habit of increasing out of control. To give you an idea just how bad it got, on a nice spring day of 22 – 25 degrees it would easily rise to 40 degrees inside the little structure and it succeeded in killing one of my little *Darlingtonia* seedlings. Luckily for me I work from home and during one of my frequent trips to check on my

collection I noticed how hot the soil was for my poor cobras. I immediately washed the pot through with cool water and removed it from the "oven" and replaced it on the deck where it had been growing quite nicely the previous year. I had six seedlings growing in that pot and it was one of the weaker seedlings that succumbed to the high soil temperature. The remaining five are now growing far beyond my expectations in their new greenhouse a short distance away from the evap unit, a position they love.

Getting back to putting up the first part of the jigsaw; 800mm was the approximate width of the front door so at the planning stage I decided that in making the greenhouse 2.4m wide I would have a convenient width of 800mm either side of the door. This would give me ample space to walk down the center and create good sized shelving. Plus the evap cooler would fit nicely on one side of the door along with the plastic bathtub I had found a few days earlier.

Now this bathtub has a "spooky" kind of weird story attached to it. Around the corner from my place, on the way to the shops, was a

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Photo 1: Starting by, getting the front of the frame in position and braced.

house with a mini skip out on the front lawn. This particular bin had been accumulating all sorts of household rubbish for nearly two weeks and during the two weeks I had been getting everything together for the greenhouse. Then one night, reading through some of my CP books, I thought to myself that maybe I should consider getting a second hand bathtub to convert into a bog garden for the greenhouse. I've always wanted to grow some of my CP's in a natural setting like a bog garden but seeing as Perth is so windy it wasn't going to be possible ... until now.

This is where it gets a little spooky; the very next day I am in the car on my way to the shops and there, sitting on top of the mini skip, is a bathtub in brand new condition. If that isn't fate telling me that the bathtub bog garden was a good idea then I don't know what is, so a few days later I knocked on their front door and asked if I could have the tub. They were more than happy as they said it would make extra room for more rubbish.

Again back to the first part of the jigsaw; I began to make the frame for the front of the greenhouse (front frame) that consisted of a bottom plate 2.4m long, the doorframe and two uprights for the side walls along with two rafters and the top plate of the door to form an "A" frame style roof. I began by attaching the door, via its hinges, to a length of timber that I cut to the height of the door. I will call this first timber the backbone of the door.

The door with newly attached backbone was

placed, at right angles, 800mm in from the edge of the base plate. Once attached, I cut a second piece of timber to the same length as the backbone to form the other side of the doorframe. Finally the two uprights were fixed at both ends of the plate to form the beginning of the walls. The uprights were precut to length according to my original calculations from my plan.

Now I essentially had the bottom portion of the front frame of the greenhouse. I cross braced this with a length of timber and some clamps to hold it all together so I could lift it to the spot where I wanted the greenhouse entrance. Once it was in the correct spot I secured it in a standing position using props clamped to the uprights (**See photo 1**).

After moving this lot I was very glad to have only attached the bottom portion because it proved to be very heavy, as it was solid jarrah. I only just managed to get it in place without dropping it on my feet and have it end up as a mangled mess of bent nails and torn timbers, not to mention missing toes.

As a side note I used a combination of gang nails and normal two inch nails in most of the joints. For those who don't know what gang nails are they are used in applications such as wooden roof construction and are extremely strong. They are essentially a steel plate which has had multiple "nail" shaped sections pressed into it and these sections are then bent down at right angles to form the nail which is still attached to the plate at one end. The "nails" attach the plate to the wood and the plate holds the two bits of wood together, this saves pre-drilling pilot holes and trying to hammer nails into the wood at odd angles avoiding bent nails.

Mostly I used the gang nails to hold timbers together as an extra pair of hands or where two timbers were joined end on end. I used the two inch nails as extra strength when I wanted the structure locked in, or on joins where I could only get the gang nails into one side of the timber thus preventing the joined timbers from twisting apart.

With the bottom portion of the front frame finished (no roof yet) the next step was to lay out a string line for the walls to ensure everything was straight and square. From there I could

confidently start putting the walls together in sections and erect them section by section.

Way back at the start when working out the quantity of timber needed, I had to ensure the lengths would fit in the ute. This meant the longest length could not exceed 2.4m, therefore if the sides of the greenhouse were 4m I would have to join two 2m lengths together to form the bottom and top plates for both the walls and the roof beam.

This meant each wall section could be built in two sections; each section was put together using a timber for the bottom plate, two uprights and a top plate. I placed the bottom plate along the ground, marked the place where I wanted to attach the uprights, centred each upright on its mark and attached them to the bottom plate using the gang nails (**See photo 2**). If you have someone helping, you could simply lay the bottom plate in place and have your friend hold the upright whilst you drilled and nailed it. However I was doing this during the week when everyone was at work so had to overcome obstacles like not having enough hands for the job.

Once the gang nails were attached I raised the new wall section into place using more props. I measured the space between each upright to custom fit noggins that are added to strengthen the walls (noggins are the horizontal timbers sitting between the uprights). When measuring for the noggins, I used a post spirit level (a spirit level designed to fit around a vertical timber post) to ensure the uprights were standing vertical and in-line with the front frame uprights. This is important to make sure the wall finished without any wobbles or funny angles. If this isn't done properly your frame will end up becoming out of square and be leaning all over the place making each consecutive step that much more difficult especially if you've precut your timbers, i.e. the roof might not fit!

In the future the noggins will act as support for laserlite sheeting. Plastic film is cheaper and does a good job but after talking to a few people they all mentioned that it only lasts a few years before it starts to degrade and tear. I intend to wait until it does tear and then replace the plastic film with laserlite for the long term.



Photo 2: Creating the side wall first.



Photo 3: Putting up the side wall.

Only when all four wall sections were propped up in place did I drill and nail everything to make it more secure (**See photo 3**), leaving it propped up until the end frame was completed.

The timber may be slightly twisted or warped especially if it's second hand so it's ok to be out of tolerance by a few millimetres, in fact if you try to be too fussy you will never get the job done when it comes to timber. This is the reason why I didn't precut the noggins but measured them to fit. Sometimes the distance between the spaces for each successive noggin was out by almost 10mm from the previous one.

Once the walls were up, my next move was to attach the top plates of the wall frames to lock them in and give me something to attach the rafters to. You may notice I have cut the tops of the uprights at an angle to match the angle of the

rafters instead of cutting the rafters to match a flat top plate. I did this mainly because I didn't want to mess around with all that extra setting up and cutting, plus it reduced the chance of cutting a rafter too short if any of the wall uprights were out. This way I could cut all the rafters to size and if any of them were not quite the right length I could adjust as I went along. Too long and it was simple to cut off the excess, too short and the wall could be teased to make a better fit.

The next step, attaching the roof, required an extra pair of hands as it would prove too much mucking around and more clamps than I had available.

Dad was gearing up to fly back home on the Thursday afternoon, so the pressure was on for me to finish the walls in time so I could enlist dad's help with getting the roof done to a point where I could complete it by myself. As timing had dictated I now had all Wednesday to get the top plates attached to the wall uprights in preparation for the roof the next day. Only four top plates to attach, "That'll be easy and give me plenty of time"! I thought, but little did I know how wrong I was.

I began by attaching the two top plates on each wall nearest the front door but I was soon to discover my first error. You see the bottom plates of the walls fit in between the bottom plates of the two end frames making a total length of 4m. So initially I had correctly calculated the bottom plates of the walls to be half the length of the greenhouse minus the thickness of the two bottom plates of the end frames.

Now at the time I was pre-cutting all my main lengths of timber I had calculated the four wall top plates and the two roof beams would be the same length as the four bottom plates so I went ahead and cut them all to the same length. But in a moment of distraction I had forgotten that the frames at both ends of the greenhouse didn't have top plates and this meant the wall top plates and roof beams needed to extend the full 4m length of the greenhouse. I had cut my top plates too bloody short. I quickly discovered this error when I went to attach the second top plate on the first wall.

Bugger!

So what to do to remedy the problem? It was

going to be too much mucking around trying to replace the two top plates which I'd already attached with all their two inch nails fully embedded into each upright. Plus, if I did that, it meant I had a nearly two hour round trip just to get two extra lengths of timber from the second hand guy. Not an attractive option. Therefore I would have to find a way of going ahead and attaching the pre-cut, but under length, top plates and then attach a short length to fill the gap.

What you might not see from the photos is I had cut the ends of the top plates and roof beams at an angle to stop them sliding over each other at their join and make it easier to nail them together. This meant I had two options; I could either fit the second top plate to the upright on the end frame leaving a gap in the middle of the wall top plates, but that would mean mucking around with cutting angles and hoping all three pieces matched up without too much gap or twisting. The second option was to join the top plates as per normal leaving the short fall near the end frame. This would mean no messing around with cutting angles and I was now only joining two timbers instead of three reducing the chances of misalignment. As you can guess I decided on the latter to make it easier and quicker.

"No worries" I thought to myself, "I can attach a short length to each wall's respective top plate and the uprights are taking the weight of the roof, easy fixed, and I should have plenty of time to be ready for dad's help tomorrow morning before he has to get on the plane in the afternoon"!

Now to attach the second top plate.....ah! My second mistake! Somehow I had cut a few of the uprights longer than the rest which meant the top plates were not sitting on the horizontal.

Bugger me!

But everything was securely nailed down with two inch nails in every which direction, so there was no way I was getting the wall sections apart to cut off the extra length in time to be ready for dad's help. So now I've got to figure out how to get the uprights to the correct length. It wasn't a simple case of measuring the length of the incorrect uprights and cutting off the extra because some of the bottom plates were sufficiently

warped to mean I ran the risk of cutting off too much and that would be bad Jujui! My uprights might end up flapping around in the wind looking for something to attach to.

And remembering the tops of the uprights are cut to an angle I had to find a way of accurately measuring the excess on each of the over length uprights. After lots of messing about I eventually did this and removed the excess with a circular saw stretched to the full limit of my extension cord. This turned out quite successfully and I was able to finish attaching the top plates before the sun turned off the lights. So what should have taken me only an hour or so took the whole day. Hmmm!

The next day saw dad and I quickly attaching the roof, the main concern being how would dad hold two rafters and a 2m long roof beam steady all at the same time whilst I drilled and nailed everything in place?

Our solution? We used an off cut from the roof beams to sit in between the rafters like a wedge; this meant dad didn't need to hold an extra piece of heavy timber whilst trying to get everything sitting at the correct angles. Step one; we positioned the first rafter above one of the corner uprights and then drilled and nailed the rafter into place on the top plate. At this point dad is still holding the top of the first rafter and the wedge, I would then hand dad the top of the opposite rafter which he would position against the wedge and together we would manipulate everything into the correct position at which point I would drill and nail the bottom of the second rafter into place. This formed the legs of the first "A" frame, which was braced to prevent it blowing over in the wind



Photo 4: Constructing the roof using "A" frames .

and creating carnage or sore heads.

If we attached the roof beam when erecting the first "A" frame we would need to find a way to brace the roof beam's unsupported end whilst we erected the second "A" frame. To get around this potential problem we moved ourselves two uprights along and erected a second "A" frame using the wedge method.

Now we had two "A" frames to support a roof beam and all we needed to do was replace the wedges with the beam by sliding the beam upwards into place and allowing the wedges to fall to the ground whilst we drilled and nailed the beam into place! (See photo 4). As you will notice from this photo I've secured the walls with a length of timber to prevent them spreading with the weight of the roof. This is important, don't miss this step and ensure the bracing and brackets are secure or there will be many tears, wailing and gnashing of teeth.

TO BE CONTINUED

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as sales and inspection are by appointment ONLY.

NEWS

From the 1st July 2007 Donna and Jason Smith became the new owners of Triffid Park. Our building plans have been submitted to council for our new modern carnivorous plant growing house to be built on our property in Somerville, on the Mornington Peninsula. The Freeway from Melbourne will bring you straight to our gateway by car. Depending on the traffic it is about a 45 minute to 1 hour car drive from Melbourne. The Somerville train station is only 4 kilometres away, and it takes 1 hour and 15 minutes by train from Melbourne.

Colin and Tina have now officially retired and their first venture on retiring was to book a trip to the Nepenthes conference in Malaysia. Did I say they had retired! Well Tina has, but I don't think that Colin ever will!

**TRIFFID PARK'S ANNUAL CARNIVOROUS PLANT OPEN DAY
IS ON AGAIN. SUNDAY OCTOBER 28TH 2007. 12-5PM.**

This will be the last Annual Open Day ever to be held at our Keysborough nursery, so don't miss this historic day. Gate opens at 12pm.

All plants as in our catalogue and web site will be available for sale.

We will have some "Red Hot" specials on plants and books

There will be a free plant giveaway for every child.

A free raffle of a \$25 gift voucher will be drawn.

You are welcome to bring your lunch and eat in our undercover pool area where there are plenty of chairs and tables, and the bbq will also be hot if you want to use it.

The V.C.P.S. October meeting will be held in the pool area around 3pm.

The V.C.P.S. will have a stand selling their gear, so if you can't make it to their monthly meetings, make sure you visit their stand, say hello, and maybe pick up a stubby holder to



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Event Summary:

Event Name: Gardening Australia Expo

Date: Friday-Sunday October 5-7

Event Time: Open daily 9.30am-5pm

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Cost: Adults: \$16 Pensioner/Senior: \$13 Family: \$38

Children 5-16yrs: \$6, Children under 5: FREE.

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Groups: 15+ people \$13 each. All prices include GST.

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