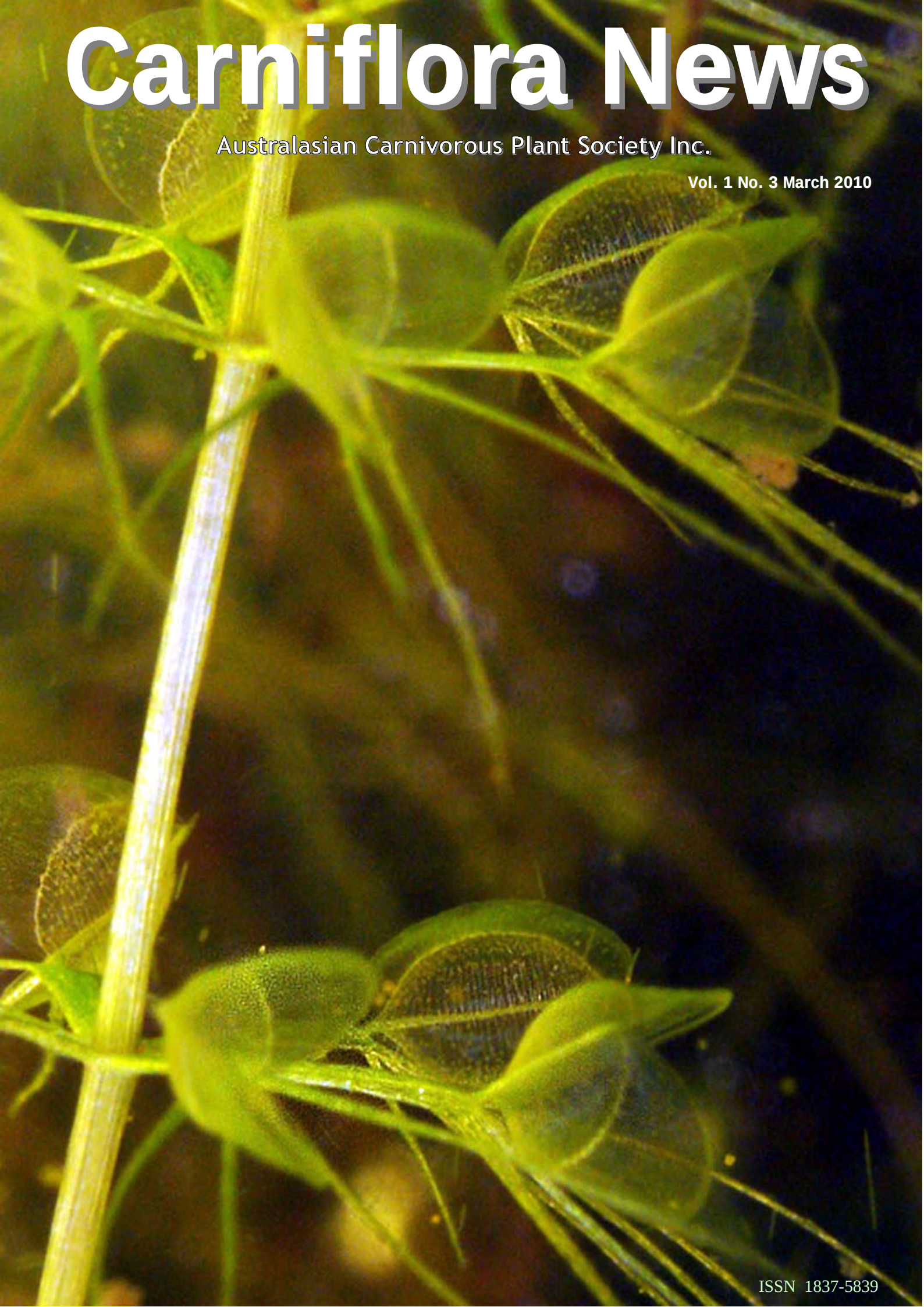
Carniflora News

Australasian Carnivorous Plant Society Inc.

Vol. 1 No. 3 March 2010



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Contents:

Upcoming Events:

- ***17th & 18th April — Bilpin Rare Plant Fair*** *Bilpin, NSW. Big sale of lots of hard to get plants. Sellers and buyers converge.*
- ***16th May 2010— Koi & Garden Show*** *Fairfield Show Ground Prariewood (Smithfield)*

  Sale and display of carnivorous plants, lots more - Koi, Ferrets, Birds & other plants.

Scheduled Talks At The Monthly Meetings

- ***April 2010*** — Dr. R. Gibson *talks about tuberous Drosera.*
- ***May 2010*** — Greg Bourke *discusses Nepenthes of Mount Trus Madi, Sabah*
- ***June 2010*** — *Plant Auction and Trivia night*
- ***July 2010*** — Greg Bourke *talks about CP plant photography.*
- ***August 2010*** — Kirk 'Füzzy' Hirsch *talks about the biology and horticulture of Drosera cistiflora and its South African allies.*
- ***September 2010*** — *Sarracenia re-potting and division demo*

Chat Corner

By Füzzy

Newcastle, Australia

Email: mijmark@ihug.com.au

Hello to one an all, to members of the Australasian Carnivorous Plant Society and to those interested who are reading up about us. It is March and autumn is upon us. Soon the clock will fall back an hour so we can sleep in that much longer. It also means that some *Sarracenia* species, varieties and hybrids should be sending up their second round of trumpeting pitchers. Many of ours are, while some are starting to go dormant. Some *Nepenthes* varieties will be putting out a few upper pitchers as well. I know ours have, especially one very large specimen of *Nepenthes* 'Gothica', which surprisingly has very large and colourful upper pitchers. If you want a Nep. that can grow outside easily enough in Sydney coastal conditions and give you huge pitchers still — this plant's for you.

AIl the summer dormant sundews should be getting ready to shoot out of the ground or already have broken dormancy, the South African sundews that sleep during the summer will be starting up as well. A few of our tubers have popped up, bright and ready for another season.

The society had a successful Christmas meet, with a jumping castle for the kids a big success. Keeping with the society's holiday traditions we ran a gamut of competitions. All of them were judged by our then President Stewart McPherson. The list is as follows:

Grand Champion:	Greg Bourke with his awesome *Nepenthes lowii* x *N. ventricosa*
Best *Pinguicula:*	Kirk 'Füzzy' Hirsch with a huge *P. gigantea*
Tallest *Sarracenia*:	Gordon Hannah for a *S. flava* x *S. oreophylla* some 95cm tall
Reddest Plant:	Gordon Hannah with a beautiful red variety of *Sarracenia alata* x *S. flava*
Best *Cephalotus*:	Ron Gauci for a very lush entrant
Best *Darlingtonia*:	Jessica Biddlecombe as she had one alive & well, no small feat in itself
Best *Nepenthes* species:	Won by Terry Nicholls with a beautiful *N.lowii*
Best *Nepenthes* Cross:	Taken by Peter Biddlecombe with *N. khasiana x*
Best *Sarracenia* Species:	Gordon Hanna with a tall and colourful *S. flava* var. *rubricorpora*.
Best *Sarracenia* Hybrid:	Gordon Hanna with *S. flava* x *alata*
Best *Drosera*:	Greg Bourke with a vigorous *D. binata*.
Best Venus Fly Trap:	Terry Nicholls had a giant form of our old favourite.
Best group planting 1:	Kirk 'Füzzy' Hirsch for a verdant bog garden in a pot
Best group planting 2:	Greg Bourke had a lovely bladderwort in flower in a pot of *D. binata.*
Best *Utricularia*:	Greg Bourke had a *U. cornuta* in full bloom.
The New Member Entrant:	Terry Nicholls came true with a colourful *Nepenthes maxima*.
Plant/Owner Look Alike:	Greg Bourke a funny mixture of plants (and a weed) with roots hanging out of the pot. Spot on resemblance there.
Hot House Raffle:	Robert Pollett was our lucky winner there
Year Membership:	Laurie Dorfer received this award

Our 'Plants With Bite' week at Mt. Tomah gave the society more renown and was quite lucrative for all involved. The plants displayed were beauties, and the ones for sale were very good quality for quite a reasonable price. We look forward to the Bilpin Rare Plant Fair (see ad inside) and to the acquisition of more plants. Images of the Plants With Bite and

the society's Christmas gathering are on the next two pages, so those who didn't go could at least see what's for offer. Enjoy

Our president would like to thank The Royal Botanic Gardens Mt Tomah for their continued support of our Plants with Bite festival and would also like to thank the following members who made the event possible: Peter and Jessica Biddle-combe, Lyn and Gordon Hannah, Phillipe Reyter and Richard Sullivan.

May your plants grow in both size an appetite.

Füzzy MK

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Below: Anxious entrants await the judge's decision on some of the precious plants that they have brought for this competition

Top: The Plants With Bite event at Mount Tomah Botanical Gardens

Bottom: An older pic of the bog garden at Mount Tomah Botanical Gardens, many displayed plants donated by members

More Success With The Waterwheel Plant (*Aldrovanda vesiculosa*)

By Kirk 'Füzzy' Hirsch

Newcastle, Australia

High altitude lake habitat for *Aldrovanda vesiculosa* occurring some 30 minutes north west of Armidale, NSW.

Photo by R. Gibson.

Robert Gibson obtained a sprig of *Aldrovanda vesiculosa* some time back from a collection through the University of Armidale where he obtained his PhD in carnivorous plant botany. In a home experiment to find the optimal growing conditions for this species, we divided it into 3 sections. It was one that came from a naturally occurring colony there up in the Armidale area. In the last newsletter the first experiment article was reprinted.. (Carniflora Australis, Number 9 March 2007) I did express that we'd do a follow up article of our experiment a year or so later. Due to popular demand, here it is.

Aldrovanda vesiculosa, our one surviving sprig from the last growing experiments.

Photo by R. Gibson.

The results from 4 months of growing in 3 different habitats showed mixed results; they were all successful to varying degrees, yet some had possible future problems with filamentous algae growth. The plant had been prolific enough we made a 4th bowl, one with only a small amount of other water plants along the bottom, nothing which could interfere with the level *A. vesiculosa* usually floats at. In the autumn months some of them even turned a lovely shade of red when the photo period increased as the afternoon sunlight sank underneath the balcony eaves .

In the time between the last journal article and this sequel, we'd moved. We lost all of our *A. vesiculosa*… or so we thought!

When moving all 3 curved bowls, we put cling wrap over them to keep from spilling. Even less than a week in a sealed bowl and no direct sun, all plants dissolved. Some had made turions, so we hoped for a few instances of re-

Aldrovanda vesiculosa growing in the 2nd bowl of the previous experiment.

Photo by R. Gibson.

growth from the bottom sediments come spring… to no avail.

But a month later, in the small, white plastic bowl I had ignored, one which lost all its water one day, one which I filled up with tap water — not rainwater as I did all the other bowls — a tiny sprig of waterwheel floated at the surface. A turion had survived. It had been thoroughly neglected and it survived the meanest of conditions during and after our move.

We babied it, and within a year it has refilled all of our bowls. Since the other flora and fauna of these microhabitats still flourished, the ecology of these systems seems to be in balance, as long as they get several hours of afternoon sun. There is a healthy population of a native snail to keep algae from building up along the sides. I periodically add more snails, since they breed in our rainwater collecting fish bowls in the front of the house. I also shift snails then from isolated populations in these little bowls back to the big ceramic bowls to keep the gene pool active.

Now we have 4 bowls, instead of the 3 in the experiment from a year ago. The first bowl of them has nothing in it at all, except for some mossy growth along the bottom layer of sand over leaf litter. The sprigs here seem to be doing quite well without any competition from other aquatic plants. Before the water turned slightly brown though, no sprig of the waterwheel would grow in it. For some reason the water had to mature for a few weeks.

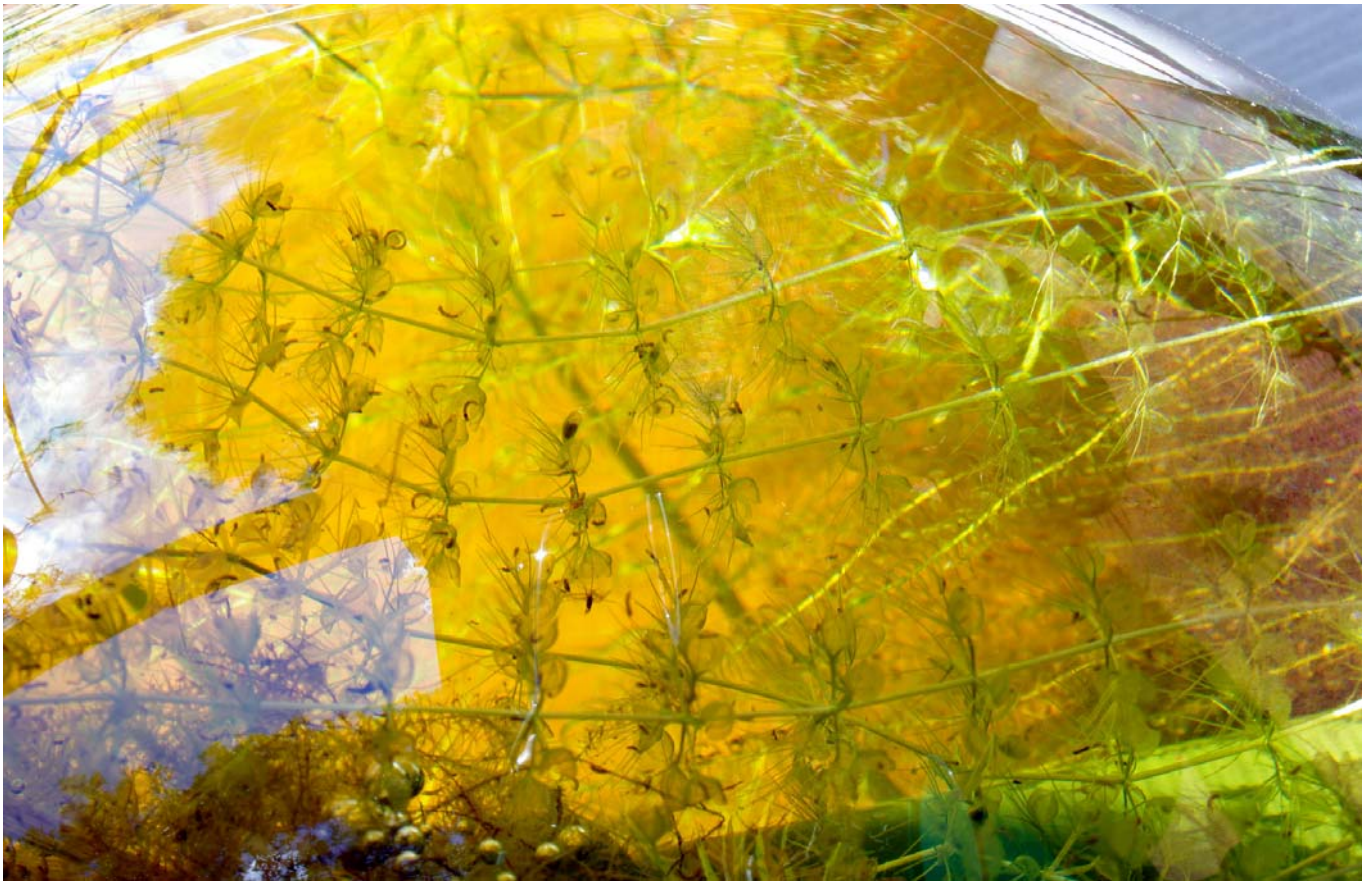
The second bowl had most of the original plants from the previous experiment in it: two species of native rush, some milfoil, some *Utricularia dichotoma* and some *Bacopa*. Before, this bowl seemed to have the best growing conditions for the waterwheels. They even turned a shade of red. In correspondence with Lubomir of the Czech Republic, he did state that all Australian *Aldrovanda* have the capacity to turn red.

Currently, the plants are doing well, but not as well as the next bowl. This fact surprises me, for it indicates some other factor comes to play in the successful growth of *Aldrovanda*. The waterwheel of the second bowl seems to favour the most illuminated side of the glass, that which gets the afternoon sun. Recently I shifted the table the bowls sit on into more sunlight since the sun had moved as it came and left the summer solstice. It's only been 2 weeks, so no noticeable change has happened. The springs have interwoven themselves into a mat growing in the middle layer.

The second growing bowl filled with *Aldrovanda* and other native water plants the 2nd time around.

Photo by R. Gibson

I didn't expect the 3rd bowl to be as prolific as it was. I thoroughly expected the other plants in it to outcompete it for space, nutrients, and light. Consider that I have *Azolla sp.* growing on the surface, *Utricularia gibba* growing among the roots of the water fern, *Nymphoides* (*crenata*?), and a prolific native rush growing in the same bowl. This bowl, like all the others, holds 3½ litres of water only. It's pretty crowded in there, and *A. vesiculosa* seems to twine among the strands of *U. gibba* quite effectively. The waterwheel plants all crowd throughout the bowl. It doesn't get as strong a light either as the first and second do. For some reason though, it has had a burst of growth. It's thick with the waterwheel, and everything else. The native snails seem quite happy too.



A closer view of the best growing bowl, the 3rd one. It's a jungle in there! Note some of the juvenile midge larvae in some of the traps.

Photo by R. Gibson.

The 4th bowl didn't work. All of the *A. vesiculosa* in it died. It received the least amount of sunlight, being behind the other 3. At the surface is some *Azolla*, and underneath the floating mass, one which I thin out regularly, are floating matts of *U. gibba*, which is quite prolific at the surface. Filamentous algae grow in this bowl, even though I keep thinning it out. Also growing along the bottom is an unknown stem forming plant that seems quite prolific. These stems branch but form no signs of leaves. These stems have no roots, but tend to grow along the bottom. They are a little transparent as well and 2 to 3 mm thick.

This bowl I had made more acidic at the set up to see how the plants would react by adding 5 grams of citric acid to the water. From earlier mention by members of our society, it has been shown that *A. vesiculosa* prefers water of low pH with a higher amount of dissolved CO_2. Perhaps instead of citric acid if I used carbonic acid the results would have been different? Maybe next update on growing *Aldrovanda*?

Again, I refill all of these vessels with fresh rainwater. I will dilute tannin-saturated water with pure rainwater when filling them up, just brown enough to notice. It seems *A. vesiculosa* prefers to grow in rainwater with some tannin leeched out of leaf litter from the bottom of the collection bucket. This slightly brown colour appears to have qualities to keep filamentous algae from blooming in sunlight. From what I have observed with several species of aquatic carnivorous plants, that they all have boom and bust cycles. They will avidly grow in the boom cycle, yet disintegrate at a moment's notice in the bust. Tadpoles seem to be anathema to some of them as well – *chomp, chomp, chomp*…. The native snails I obtained from the Hunter Wetlands don't seem to eat the floating *Utricularia* species or the waterwheel itself. They do keep the glass clear of algae build up, quite effectively.

It didn't just turn a little red in the autumn afternoon sun, but almost blood red.

Photo by R. Gibson

How Dr. Adamec grows his collection of *Aldrovanda* in the Czech Republic.

Photo by Dr. Lubomir Adamec

Aldrovanda sending up flowers in cultivation.

Photo by Dr. Lubomir Adamec

So again, the materials I used to get my results were 3½ litre glass goldfish bowls bought from The Reject Shop®, tannin infused rainwater, leaf litter, and sand. The companion plants & animals were all various native species. I've included a visual example on how Dr. Lubomir Adamec, someone we know in the Czech Republic, grows his *A. vesiculosa*. He even managed to get his to flower, a growing secret we have yet to discover .

After this growing season, I'll be culling some of the other species, taking out the submerged pots, cutting out about half of the rushes, milfoil, *Nymphoides*, *U. gibba*, and that others to make room for more *Aldrovanda*.

So, here are some of the secrets for growing *Aldrovanda* successfully in the Newcastle area of Australia. Different growing conditions will call for different methods, yet overall the basics should remain the same.

REFERENCES

Carniflora Australis, Number 9 March 2007. Article: Success With Aldrovanda by Kirk 'Füzzy' Hirsch

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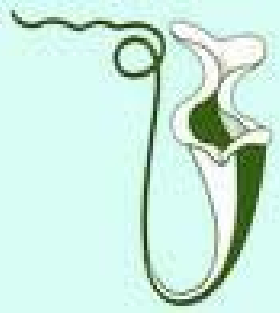

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The why's, how's, and the where's of these plants. What about carnivorous plants that seem animal friendly ?

Chapter 3: Murder methods
Exactly how the deed is done. A review of the different carnivorous plant traps. This is more complicated than is usually described, because of many carnivorous plants traps that employ a combination of strategies.

Chapter 4: *Aldrovanda*
A particularly long discussion of this species, because it is usually neglected in other works. Includes a discussion of the Adamec and Darnowski cultivation methods.

Chapter 5: *Byblis*
A thumbnail sketch of all the species currently known, plus cultivation guidelines. Learn to set fires for growth!

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Includes a description of the oft-forgotten gland patch!

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Includes new cultivars: *Dionaea* 'Wacky Traps, *Dionaea* 'B52,' and *Dionaea* 'Justina Davis.'

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A complete list of every known species, divided into useful geographic tables.

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A very interesting chapter showing how this adhesive plant is very different from all the other flypapers.

Chapter 11: *Genlisea*
A convenient guide to all the species currently described.

Chapter 12: *Heliamphora*
This difficult genus has been divided into species many different ways. No doubt about it, this is a tricky group.

Chapter 13: *Nepenthes*
I list more than 100 species, divided into highland and lowland, and also categorized by region.

Chapter 14: *Pinguicula*
Another large genus with useful tables to help keep these organized in your brain. Did you know Cuba was such an important area for *Pinguicula*?

Chapter 15: *Sarracenia*
My treatment of this should raise some eyebrows! I also introduce two new cultivars: *Sarracenia* 'Frogman' and *Sarracenia* 'Belly of Blood.'

Chapter 16: *Utricularia*
This chapter's centrepiece is the humongous table listing every species and gives information about provenance and habitat type. A useful resource for horticulturists!

Chapter 17: Other carnivores and not-so-carnivores
My assessments of *Roridula*, *Brocchinia*, *Catopsis*, *Triphyophyllum*, *Ibicella*, *Capsella*, and others.

Chapter 18: Philosophy of cultivation
The first of three chapters on cultivation, this includes the Golden Rules codified at last, plus an description of all the soil media you'll ever need, and the pests you hope you'll never meet.

Chapter 19: Settings for cultivation
Windowsills, backyards, bottle terraria, dedicated terraria, bog gardens, and greenhouses. I discuss them all.

Chapter 20: Advanced cultivation
Leaf pulling, scarification, dormancy requirements, and other advanced topics.

Chapter 21: Field trips
On visiting plants, be they at greenhouses, on boardwalk sites, off the beaten trail, or even accessible only by canoe. Some protocol when visiting extremely rare plants.

Chapter 22: Conservation
In most books, conservation is relegated to the last chapter. Yes, I do it here too (with a review of conservation stresses and useful strategies) but conservation is an important thread that is discussed in each of the chapters
4-**End matters: A glossary and bibliography**
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Heliamphora Cultivation

By Nathen J. Clemmens

Reissue from original appearing in Fly Trap News, Vol; 14 No; 3, Jan/Feb/Mar, 2001

Heliamphora is a genus of primitive, yet exquisite looking, pitcher plants, hailing from the South American table-top mountains, known as Tepuis. They have been in cultivation in Australia for a num-ber of years, and now more than ever, enthusiastic carnivorous plant growers are adding them to their ever expanding collections. The two most easily obtainable species are *Heliamphora heterodoxa* and *H. nutans*. At the time of writing there are a total of nine species, with subspecies inter-twined within this group as well. Following are growing conditions for these beautiful plants in the state of New South Wales.

These plants are appreciative of moderate amounts of sunshine in the lower parts of New South Wales, allowing them to colour up well, and develop ideal pitcher formation. The best advice is to allow these pitcher plants morning sunshine in the warmer months, and almost full sun exposure in the Winter months. These plants have no dormancy, so they will appreciate ample light all year 'round. The best indication of too much sun will be overly red and drying pitchers, especially at the margins. One wants to aim for bright red markings about the nectar cap region, as well as the pitcher edges. This is best appreciated in a well grown *H. heterodoxa*, as it has lime-green pitchers with maroon-red edging. Other species do tend to colour up in inner pitcher regions, so the key here is to keep a watchful eye on pitcher condition, and simply adjusting sun exposure times.

Growing Media

These plants are not too fussy about what they are grown in, with the media ranging from orchid compost to straight live *Sphagnum* moss. The best media that I have found to give robust growth is that of live *Sphagnum* moss, with approximately 20% of vermiculite mixed-in. The vermiculite allows the diluted doses of fertilizer to be retained within it and slowly released over time.

Potting

The best pots to use for this Genus is that of a half-length, or squat-pot. This allows for adequate pitcher spread, as well as plenty of room for the average sized root run. The best time is the start of the growing season, early Spring. One has to be gentle with the potting-up process, as these plants do have brittle roots, and rhizomes, so gently washing of the roots is all that can be done when repotting to remove as much as possible any old media. If you are not confident with doing this a gentle dunking in tepid water is sufficient. Avoid excessive breaking up of clumps with this plant, as it tends to grow best in clusters, and some small divisions of juvenile leaf growing clumps, may not survive. Be sure to keep the growing point above the media level, and to gently firm the soil surface. Water-in well as these plants appreciate plenty of over head watering, allowing it to drain-off. Place them in a well-lit area (but not direct sun), & keep up watering and misting until the plant has settled, usually in a week or two. Some growers indicate the use of a dome or plastic cover while settling in, so keep an eye on then pitchers for any wilting or dryness if you have not used this. Be sure to keep out of all sunshine when using the dome or plastic cover, as the plants will be roasted to death.

Heliamphora heterodoxa growing in cultivation. Note the flower stalk to the right.

Watering and Fertilising

These plants grow where daily rain and mists constantly shroud them, so they do best if these conditions are mimicked to a certain degree. A once daily misting of water, preferably rain water, is the opti-mum growing conditions for great looking plants. I tend to water overhead daily in Summer, as this keeps ample water in the pitchers, needed for bacterial break-down of prey.

They are not keen on water-logged conditions, so it is best to allow the water misting and over-head watering to drain off. I allow my plants to sit in a tiny amount of run-off, only in the Spring and Summer months, as this is quickly sucked-up by the days end. The key to the growing media is that it must be free draining and able to maintain a little residual moisture, hence the *Sphagnum* being ideal. If in doubt of media saturation, a lit-tle dryer is always better than saturating.

Fertilising is required for these plants to flourish, as with all of the run-off from the Tepuis' rainfall, they do collect tiny amounts of miner-als and Nitrogen in the natu-ral conditions. It is not recommended to feed your plants with insect prey, as it can easily be overdone, resulting in rotting pitchers from the base upward, eventually wilting healthy top parts. In the wild they rely on small prey being captured. A solution of one tenth-strength liquid fertiliser is the best to work with, making sure the ratios are on the lowest side for Phosphorus, otherwise you would be encouraging algae growth. The most common one is Thrive, due to the ease of mix-ing and calculations, and good NPK ratios. This is best applied over head into the pitchers, mainly during the traditional grow-ing seasons. At the height of summer, a once weekly application is best. Otherwise, a fortnightly application is ample. This will encourage robust growth and eventual flowering upon maturity.

Heliamphora nutans growing in cultivation in a bed of live sphagnum moss.

Temperature

These plants do best in an approximate range of 4 degrees to 35 degrees, these obviously being the extremes. My plants do not appreciate frost, a test already accidentally undertaken. In the Summer months one wants to protect their plants from hot sunshine, so the hotter the cli-mate, the less sun exposure. In heat waves these plants should be in full shade, until conditions return to normal. Their native climate is best described as mild to chilly in the evenings, so they do not adore ex-treme heat. In hot weather be sure to over-head water and mist twice daily, doing so in the early morning and late afternoon, so as to cool them down a little.

Conclusion

With all of these points followed and considered within your own growing conditions, you will have healthy and easy to care for plants. The only real challenge is obtaining the plants in the first instance! Tissue culture has made their availability increase, along with a better un-der-standing of their growing requirements. May you obtain some Heliam-phora for your collection and grow it well following these guides.

Heliamphora nutans x H. heterodoxa

Photo by Greg Bourke

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Nepenthes vieillardii in the wild

By Robert Gibson

Newcastle, NSW

Nepenthes vieillardiii is a scrambling to climbing species, endemic to New Caledonia (Danser, 1928; Cheek and Jebb, 2001). During two visits to New Caledonia I have had the pleasure of seeing this species in the wild, on which this account is based. In general it is a tough, shrubby scrambler with modest lower pitchers and small, green upper pitchers, although some impressive forms do occur.

This species is locally common in southern New Caledonia, and is a component of the botanically fascinating schleromorphic open shrubland known as 'maquis'. This vegetation type is found primarily on the iron-, manganese-, and nickel-rich 'Massif du Sud', an upthrust segment of oceanic crust (or ophiolite), which covers approximately 40% of New Caledonia. I have seen *Nepenthes vieillardiii* at Mount des Koghis (Figs. 1 and 2) and Parc Territorialé de Riviére Bleue (Fig. 3), and it has been reported at Mount Dore, the hills to the east below Mt. Col. de Mourange, along the southern edge of Lake Yaté (Jones and Wilson, 1987), Isle des Pines (Danser, 1928), and Massif du Koniambo (Jaffré, 1974). In general this species grows in dry-surfaced rocky soil, often in gullies, and appears to occupy only a small fraction of the seemingly suitable sites.

Figure 2. Another *Nepenthes vieillardii* growing at Mt. Koghis.

Figure 1. *Nepenthes vieillardii* growing at Mt. Koghis in exposed clay rich soil in a gully.

All Photos by R. Gibson

The following description is based upon my field notes and photos, and follows the form given in Kurata (1976). Stems cylindrical, scrambling to ca. 5 metres high, 5-30 mm thick. Leaves sessile, leathery; the leaf blade linear-narrowly elliptic, 7-25 cm long by 1.5-5.0 cm wide, acute or rounded at the apex, the base attenuate, decurrent. Tendrils 1.5 times as long as the leaf. Lower pitchers 8-20 cm high, 3-4 cm wide, globose in the lower part, infundibulate towards the mouth, with two fringed wings; mouth ovate, oblique; peristome cylindrical, 1-1.5 mm broad, ribs indistinct, teeth indistinct; lid ovate, 1-5 cm broad, without a glandular crest on the lower surface; spur not branched, to 1 cm long, inserted close to the lid. Colourwise they range from green, with internal red dappling, to fully red-purple, even in shaded locations. Upper pitchers 3 to 9 cm tall, 1-2.5 cm broad, cylindrical in the upper part, ventricose in the lower part, with two indistinct ribs over the whole length; mouth ovate, oblique; peristome cylindrical, 1-2 mm broad, ribs and teeth indistinct; lid and spur like those of the lower pitcher. Pitchers predominantly green, often with a red-black peristome and irregular red-mottling inside the pitcher. Inflorescence a 1-flowered raceme, to 50 cm tall, including the peduncle, with red male or female flowers to 1cm diameter. Fruit to 2 cm long. Seed, cylindrical, 7mm long by 1mm diameter, pale brown, without wings.

Interestingly, McPherson (2009) has reported larger upper and lower pitchers on other plants on the island.

In general the internodes are 0.5 to 4 cm long, so that the green leaves of these slow-growing plants is concentrated at the end of the stalk. On both visits to the island, in mid-summer, several plants were in flower, although this was towards the end of the flowering season. The remains of the previous seasons dead scapes were commonly retained on the plants. The scapes are held erect above the foliage, and reminded me somewhat of candles. This has the effect of exposing the flowers to insects and windblown pollen, and the ripe fruit to the wind and rain to dislodge the seed. In one-particular plant at Mount des Koghis I found two finished scapes with open seed capsules which had been covered by the plant. Most of the open fruit contained a significant amount of seed, which was also scattered on the ground below, and I collected a considerable quantity of it. I also

found that some fruit capsules did not open fully, and contained smaller quantities of ripe seed. The amount of seed retained by these plants may act as an important seed store.

I observed some variation amongst the *Nepenthes vieillardii* plants, primarily in the colour of the pitchers. In general the upper pitchers were small and green, however, I found a male plants with attractively red-mottled upper pitchers, and also an impressive plant at Mounts des Koghis with green, hairy upper pitchers to 20 cm tall. The *N. vieillardii* at Riviere Bleue, had generally smaller, tougher leaves than those at Mounts des Koghis, with small upper pitchers but large, fully red-black lower pitchers (even in full shade). I was told that some plants on the island have pitchers large enough to hold 1.5 litres of fluid. In addition I have seen cultivated plants in Sydney in which the foliage, tendrils and (lower) pitchers are bronze-red.

The pitchers often contain a small amount of very viscous fluid which has the identifiable remains of ants and beetles. Many plants had chewed leaves and scale insects, indicating that they are not immune to pests.

The plants tend to grow in open areas and scramble over the soil, and in the inevitable gully. They can cover several square metres. Less commonly they scramble over shrubs (see Lecoufle, 1990, page 127), which they tend to completely blanket, and rarely do they climb to the top of larger shrubs and small trees.

Figure 3. A plant at Riviere Bleue showing the typically vibrant red coloured lower pitchers.

In some instances this *Nepenthes* species had been observed growing close to another endemic carnivorous plant of the country, *Drosera neocaledonica*. This sundew also withstands the dry period with an adaptation of smaller glandular hairy surfaces and hairs to protect from dessication during the dry period (Figure 4).

Nepenthes vieillardii is an interesting species, especially when seen in its natural habitat. It has proved ameniable to cultivation, and may be kept pruned to maintain the production of the larger, and more colourful lower pitchers, unless flowers are required.

Figure 4. *Drosera neocaledonica* at Mt. Koghis growing in dry conditions

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Seed packets are AU$1 each. Postage is AU$3 within Australia and AU$4 worldwide. Please list substitutes. All plant varieties listed have them available for purchase, but not all seeds are packaged yet.

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How should it be labelled? With the full species name eg. *Drosera rotundifolia* not *D. rotundifolia*. If sending seed from outside Australia, it must also have a customs declaration stating what is in the package. This way it avoids delays with Australian customs.

If you wish to donate seed, it is advisable to contact the Seed Bank Manager (seedbank@auscps.com) to ensure that it is ok to donate the particular species ie. Some species are protected by CITES while others are listed as potential weeds.

Please donate seed and help others enjoy growing carnivorous plants!

#	Species Form	# of Packs
1	*Drosera spatulata* Taneaga Is. Japan	
2	*Drosera heterophylla* Wongan Hills	
3	*Drosera indica* Herberton Qld	
4	*Drosera aliciae* Large Form (sessifolia)	
5	*Drosera auriculata* Adamstown, NSW	*
6	*Drosera auriculata* Jervis Bay Powerstation	
7	*Drosera nidiformis*	
8	*Drosera macrantha*	
9	*Drosera tokaiensis*	
11	*Drosera binata* T-form Lithgow	
12	*Drosera auriculata* Elermore Vale, NSW	*
13	*Drosera capillaris*	
14	*Drosera aliciae*	1
17	*Drosera graniticola*	
19	*Drosera auriculata* Tomaree Head	
20	*Drosera dielsiana*	
22	*Drosera binata* New Zealand	
23	*Drosera natalensis*	
24	Mixed *Sarracenia* species seed, many by Gordon Hannah	*
25	*Drosera peltata* WA form	
26	*Drosera capensis* Red	
27	*Nepenthes stenophylla*	2
28	*Nepenthes ventricosa* Hot Lips	1
29	*Drosera peltata* “tropical” Dundathu, Qld	1
30	*Drosera burmannii*	2
31	*Drosera burmannii* Pilliga Red	
32	*Drosera capensis* Narrow Hairy	
34	*Drosera capensis*	
36	*Drosera spatulata* Engadine	
37	*Drosera spathulate* var. *‘gympiensis’*	2*

#	Species Form	Number of Packs
38	*Drosera peltata* Pink	
39	*Drosera capensis* C.V. Alba	
40	*Drosera spatulata* Fraser Island	
41	*Drosera glanduligera* Red Lily McCarthy Rock WA	
42	*Drosera filiformis*	
43	*Drosera hartmeyorum*	3*
44	*Drosera peltata* Mixed forms	
46	*Utricularia uliginosa*	
47	*Drosera peltata* Red Rosette White Petal	
48	*Drosera peltata* Richmond	
49	*Sarracenia minor*	
54	*Drosera auriculata* Angelsea Vic	
55	*Drosera auriculata* Glenmire NSW (60cm plants)	
56	*Drosera peltata* Bathurst	*
57	*Drosera peltata* Manly	*
58	*Drosera trinervia*	*
59	*Drosera* x 'snyderi'	*
66	*Drosera venusta* var. *'alba'*	*
67	*Drosera venusta* red plant	1

* Denotes seed collected as of 2009, many are not packaged up yet

Notes to contributors

Contributions including articles, letters, photographs and drawings to the journal are greatly appreciated and may be forwarded to the societies postal address or online The views expressed in this journal are of the authors not necessarily those of the Australasian Carnivorous Plant Society Inc.

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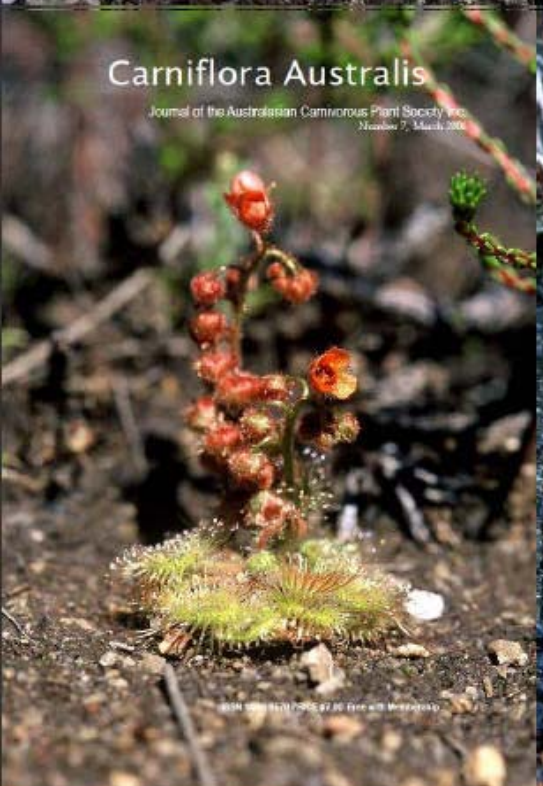


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