

## A Bit About . . . **The Big Speciosum Debate of 2006**

Little did I know 30 years ago that in 2006 I would be sitting down at a computer tapping out an article on *Dendrobium speciosum*. But there was a very definable moment way back then that led me inevitably to this point in my life.

I bought my first house in August 1975. In the front yard there was a sunken courtyard filled with sun-bleached bush rock and some very dead Philodendrons and Elephant Ears etc. I doubt they were ever looked after.

What would any young first home owner do with such a demolition site? Well, I built a wooden frame over the lot, covered it with shade-cloth, and set about learning a thing or two about plants in general.

My thoughts drifted to the old dairy farm where I was born in that most beautiful of all regions, Kangaroo Valley, 180 kms south of Sydney. Down beside the stone steps that led from the verandah to the wood heap (source of all heating, cooking and hot water) there was a great lump of a plant that my mother referred to as the "Rock Lily".

Not far from the house there was a monolith of a boulder that also had rock lilies covering it. So I went off to the farm to get some of these lily things for my own "castle". After all . . . if they were good enough for mum . . . they'd be OK for me too. That's how I've ended up sitting at this keyboard right now.

Now forward we jump to 2006. And in the space of a month or so there have been published two very significant works dealing with Rock Lilies. To be precise, the question is what we should be calling this most beautiful native orchid of all, *Dendrobium speciosum*.

The new publication "A Complete Guide To The Native Orchids of Australia" by David Jones hit the bookshops in August. This is a large and very well presented hard cover text that every grower should have. In this work, "Rock Lilies" are blown to pieces and divided up into eleven individual species.

The other work is by Peter Adams, Cheryl Lawson and Jacinta Burke and originally published in the scientific journal "Telopea". A simplified version appeared in the September 2006 Orchadian. In this, "Rock Lilies" are given the status of "varieties" of *D. speciosum* and nine varieties are put forward for consideration.

Jones had previously removed the whole *D. speciosum* complex into a new genus: "*Thelichiton*". Adams retains the *Dendrobium* genus. The question that confronts us "Wally the Grower" hobbyists is what on earth are we going to call "Rock Lilies" now?

My main intention with leaping into print at this point is to just give a bit of an airing to the pros and cons of each work. For many years now numerous orchidaceous people have put arguments forward with regularity, offering opinions on the ranking of the members of the *D. speciosum* complex.

I'm not going to bore everyone with a re-hash of past perspectives. I am going to give a few thoughts for consideration by the average grower who has a few pots of "Rock Lilies" in the bush house.

So what qualifies me to speak about it? I suppose nothing more than the experience that I have as a hobby grower of 30 years. It has also been my good fortune to have seen every species\variety of *D. speciosum* growing in the wild. As well, there must be around 250 adult plants up in my bush house, plus a heap of seedlings still to come.

Also, I've been judging *D. speciosum* for the past 18 years and this activity certainly sharpens the senses to the little quirks and oddities that form the different entities within the *D. speciosum* complex. I'm not getting too involved in the species versus sub-species versus variety thing at this point of the story. There will be more on this later.

Basically Jones and Adams agree that there are certainly more members in the complex than the usually accepted six. Every reader should be familiar with that six. Here they are anyway from south to north: var. *speciosum*, var. *hillii*, var. *grandiflorum*, var. *capricornicum*, var. *curvicaule* and var. *pedunculatum*.

Jones purports that there are another five qualifiers for separation. Adams is more cautious and suggests that there are only three candidates requiring further separation. The main thing is that each man agrees on three of these in a general sense . . . even though they assign different rank and names to them.

From south to north again, Jones gives the name of *Thelychiton epiphyticus* to tall skinny plants growing in rainforest trees, and sometimes on rocks, from Robertson to Cambewarra Mountain. This encompasses the country behind Kiama through to Nowra in NSW, a distance of perhaps twenty kms.

I have plants in my bush house that must fit into *T. epiphyticus*. They came from huge cedar trees in two cases and a giant stinging tree in another. But after 15 years in cultivation they are not tall and not near as skinny as they use to be. None flowered this season unfortunately

This year I deliberately visited a spot where large clumps of "*epiphyticus*" are growing nicely. I was looking for evidence of a new "variety". They were flowering their heads off with lovely light yellow blooms. Their pseudobulbs are certainly long and skinny. Unfortunately I could not obtain any flowers for scrutiny.

My observations are insufficient to form a firm conclusion but one thing worries me. I doubt if there are more than a couple of hundred plants that could fall into the category of "*epiphyticus*" and 70 per cent of these would be from the Minnamurra River catchment.

This is an exceedingly rugged region with the best surviving sub-tropical rainforest in the Illawarra. But it is not more than one square km in extent. The other 30 per cent are scattered across numerous gullies throughout Kangaroo Valley and the ranges that separate it from the coast. I would guess that only a dozen or so clumps are present in most the gullies thereof.

There are only three creeks of any significance apart from Minnamurra on the coast side. These are Macquarie Rivulet, Broughton Mill and Broughton Creeks. I have only visited these a couple of times and did not see any *D. speciosum* in them. This doesn't mean that there is none present of course. But I'm sure I would have noticed them if they were of reasonable occurrence.

There are however many very shaded cliffs and boulders where the sun rarely shines. Often there are extensive clumps of poorly looking *D. speciosum* that would fit into the description of “*epiphyticus*”, to be seen.

Years ago many of these rocks sat on the edges of open paddocks. As the farms were abandoned the bush reclaimed them. Fat *speciosums* have changed to “*epiphyticus*” looking *speciosums* in twenty or so years. I use this example to show how the mere addition of shade can have a huge effect on the appearance of *D. speciosum*. Until some flowers are seen, the jury will remain suspended on “*epiphyticus*”.

I just have to wonder if a whole species, in this case *T. epiphyticus*, can sustain itself and exist with what I believe to be no more than a handful of plants, in a global sense. Can it avoid cross pollination with the vast amount of *D. speciosum* that grows all around and amongst it?

It bears remembering that a species of anything has to be capable of avoiding cross breeding. That’s why gorillas and chimps, orang-utans and humans, wattle trees and gum trees, etc. etc, cannot interbreed. A species has to be capable of passing on inheritable characteristics to its offspring. This allows it to exist.

In instances where species can cross breed, the parents must be highly similar. Dogs, for example, can all breed with each other, as can cattle, horses, humans etc, but these you may argue are only “kinds” of a single species. All the members of *D. speciosum* will cross with each other creating that show bench section “intervarietal” for things like *speciosum*, *tetragonum*, *bigibbum*, etc.

Does this make you wonder if *D. speciosum* is a collection of varieties of the same singular species? Perhaps you may think that they are all separate species. But what is your definition of a species again?

Now, what about the three plants in my bush house from Kangaroo Valley having their origins in trees? Perhaps they are var. *speciosum* plants that only look like “*epiphyticus*”. Maybe they just seized the opportunity to utilise an available ecological niche. Perhaps they are just var. *speciosum* that happened to germinate in trees many years ago and grew up to be skinny. I only know that after 15 years in my care they resemble typical var. *speciosum*.

Adams’ research makes no distinction among plants from the Illawarra region and he groups them all as var. *speciosum*. The possibility of him not having identified plants with arboreal origins is quite likely however.

Moving northwards, Jones and Adams believe that plants from Carnarvon Gorge and Blackdown Tableland are distinct from the coastal forms of var. *capricornicum*. All three are found about the Tropic of Capricorn.

Jones assigns the plants from Carnarvon and Blackdown to the same species and names it as *Thelychiton coriaceus*. Adams splits them into two varieties of *D. speciosum*; var. *carnarvonense* and var. *blackdownense*.

Now, with no particular bias, here’s my amateur opinion. For a good few years I have considered the Carnarvon and Blackdown forms as totally dissimilar and for the life of me I can’t understand just what Jones sees that could link them in the same “species”.

This year I flowered over twenty clones from Blackdown and four from Carnarvon and went out of my way to note any differences or similarities. I've studied plants from these locations for 12 years now. I'm afraid it's chalk and cheese. Unfortunately Jones gives no evidence or arguments in support of his action.

My observations support the reasoning and conclusions of Adams, in so far as there are two separate identities involved. I reiterate again that I have no reason to show bias towards either gentleman's conclusions. The aspect that pleases me is that both think there's a need to recognise "it" or "them" as different to the norm.

Moving north yet again, we arrive at Eungella near Mackay. Adams retains the name of "curvicaule" at variety level but he does separate it away from more northerly *D. speciosum* that was formerly lumped in with var. *curvicaule*.

Jones and Adams agree that the Eungella stuff is indeed different from all other forms. Jones has named it as *T. spectabilis* and has assigned the old name of "curvicaule" to plants from much further away in north Queensland.

This is most puzzling and no reasoning is offered as to why the name did not remain with the Eungella plants. I don't think that any grower in Australia would consider another name for plants from Eungella other than var. *curvicaule*. It's a case of botany and horticulture coming from different planets with neither having to appease the other.

It is up around the Atherton and adjoining districts that things get a bit more involved. This is the botanical equivalent of an immigration detention centre. There is a fair amount of overlapping and inconclusiveness to contend with but I have always thought that it should be addressed. This has now happened and it's a good thing.

Everyone knows what var. *pedunculatum* looks like and both Jones and Adams maintain its sovereignty. That's the easy one to recognise and no further correspondence will be entered into. Jones recognises three extra forms (or species in this case) that more or less grow with their distributions overlapping haphazardly.

Firstly there is *T. biconvexus*. This is a very tall grower often with quite large leaves on the top of elliptic narrow bulbs. The bulbs (I get sick of typing pseudobulbs) start off very thin above a swollen "knuckle" on the old bulb and gradually swell to their thickest point which is just a few centimetres below the basal leaf, but always remain elliptic in cross section. Jones states that this is found on rocks and cliffs at Mt Windsor, Mt Amos and Mt Finnigan, all of which are north from the latitude of Mosman.

I have plants that came from trees growing along the Palmerston highway, which is the most southerly road up to Ravenshoe (south end of the Atherton Tableland) and a long way south of Mt Finnigan. Mark Clements identified these as the same as the tall Mt Windsor type during a brief visit to my bush house. I agree that it is certainly a much different form to anything else. On my plants the peduncle is 50% of the raceme. My best plant has pseudobulbs 650mm long to the first leaf.

Jones names another Atherton form as *T. rupicola* and this is what I call the common form found on rocks in north Queensland. It is not usually skinny like the other forms and is often quite thick like var. *speciosum* or var. *curvicaule* (Eungella form) when not in flower.

I observed this form growing on rocks at Tinaroo and near Koombooloomba in July 2006. All plants seen were in bud unfortunately. Tinaroo plants seem to have shorter peduncles than other locations around the tableland. Approximately one quarter to one third would seem normal for Tinaroo plants that I've seen.

I believe this is the most commonly seen form to the south of Atherton, down as far as west of Townsville, some three hundred kms distant. I have no experience with any of this country unfortunately and cannot give any opinions. I don't even have representatives in my collection from this large area but this is something I hope to address in the near future.

The last "species" that Jones has named is *T. curvicaulis*. This is not the well-known var. *curvicaule* from Eungella near Mackay. *T. curvicaulis*, from what I can deduce, is the name for the form that I have seen on Mt Lewis and near Tully Falls. It has quite thin bulbs that tend to curve readily. The Tully Falls plants I noted were inclined to have aerial growths as well. This is very uncommon in other varieties of *D. speciosum*.

To be honest, the plants always look sickly to me. When I first encountered this form in July 1994 I thought I had found var. *pedunculatum*. They were growing on rocks in nearly full sun but only a few metres from heavy rainforest. They were in advanced bud from bulbs only 150mms (six inches) long and as skinny as my thumb but almost untapered from top to bottom. There were around a dozen plants in this colony.

Plants seen on Mt Lewis growing in good shade on trees and even on roadside embankments in moss-covered clay are possibly this *T. curvicaulis* as well, but none of these were flowering, or even in bud, when I was visiting.

Tully Falls plants that I have flowered are at least 50% peduncle. The flowers from half a dozen different plants are all white. One of these is a very nice horticultural specimen and I have given it the clonal name of "Tully White". In cultivation they tend to grow into slightly thicker and taller looking plants but still appear stunted when compared to other forms from the Atherton, excepting var. *pedunculatum* of course.

Adams has adopted a very different approach to Jones with this patchwork of *D. speciosum* on Atherton. He has named all the Jones forms i.e. *T. biconvexus*, *T. rupicola* and *T. curvicaulis*, (excepting var. *pedunculatum*), as var. *boreale*, which means "north or northern".

His research indicates that there is no particular grouping of any form in any particular location. His results indicate a big range of physical features ranging from plants that flower from quite short bulbs to very tall bulbed plants.

My own thoughts on Atherton plants are firm and were formed long before the current research was published. Basically I can see that there are at least three variations to be found among the *D. speciosum* of the north. The tall lanky one that Jones calls *T. biconvexus* is a standout vegetatively speaking but is the form least likely to be encountered by hobbyist growers.

*T. rupicola* is also a fairly obvious form so long as you are looking at plants that originated from rocks in bright sunny locations. It is when plants are subjected to high levels of shade that they start growing spindly and looking for all the world like *T. curvicaulis*. They stop

flowering as often as they would in the sunlight as well. These are the two “species” that are most likely to be confused if you apply the Jones scenario.

As everyone knows, the really strong evidence for species identification in plants is found in the flowers, not the vegetative differences that can be influenced by many environmental conditions. Jones does cite some differences in flower structure between his three species. On the other hand, Adams applies mathematical analyses to the whole plant as well as the flowers. The results obtained indicate a single variable species.

The big thing that both Jones and Adams agree on is that all of the forms from north Queensland are clearly different to anything existing south of the dry zone, that starts just south of Townsville. In this region extending some 200 kms, ending around Proserpine, there are very few, if any, plants of *D. speciosum* to be seen due to the harsh, unsuitable habitat.

Adams’ evidence is extensive and thorough. It has also been carried out over a long period of time and with a large number of plants. There is a scientific approach that the average hobby grower will need to take time and patience to digest. The effort is well worth it however and once Adams’ stance is understood the results are compelling.

I’m afraid I’m no fence sitter so I’ll have to put my hand up for either the Jones or the Adams approach to the northern plants. I can certainly identify more than a single species/variety present in the region and so long as I’m looking at a plant with a raceme then I reckon I can assign it to its correct name or type or whatever.

However, if you sit me down with a bucket full of flowers, plucked from plants from all over the place, then I’m likely to get them all wrong. This is because without the plants and the whole raceme with them, the flowers are too similar to separate with tolerable success, even for a botanist.

It is for this reason of similarity in the flowers, and not the differences, that my approach to the whole business has been, and shall remain, “variety” . . . variety within the one species. I’d be willing to consider the level of “sub-species” if someone would take the time to present the arguments to me.

But it’s been “variety” since Fitzgerald, Bailey, Hunt, Rupp, Dockrill etc. were knocking around in short pants. The difference between variety and sub-species, to my amateur way of thinking, is just one of pedantic squabbling. Its way up there with getting rid of your old dog or changing your country’s flag for the sake of having something new.

On the other hand, I see little resemblance between many members within the world’s *Dendrobium* genus. The decision by Jones and Clements to remove *D. speciosum* from *Dendrobium* to its own genus, in this case *Thelichiton*, is not hard for me to understand or accept.

The same action has befallen nearly every Australian member of the *Dendrobium* genus, with *D. stuartii* remaining the only true *Dendrobium* occurring in Australia. Conversely, I haven’t seen or read any arguments or debates supporting the notion of eleven species of “rock lilies” in the Australian bush. Maybe something has been published in a scientific journal somewhere in the world . . . but I haven’t seen anything.

Hopefully we will be able to read an in depth synopsis on the subject . . . in the Orchadian . . . and the sooner the better. *D. speciosum* is just about Australia's favourite native orchid and there are a hell of a lot of people out here who care greatly about it. Maybe the new names are justifiable but until explanations are forthcoming no one is likely to accept them.

I don't know if I've made any sense with what I've waffled on with but I feel better that I've gotten it off my chest. Also, in no way was it intended to be any sort of definitive statement. After all, when two scientists like Adams and Jones can't come to the same conclusion, then the task is certainly a complex one.

Anyway . . . I'm off to the bush house to water my rock lilies. I'll see you later.

Gerry Walsh

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The unusual growth habit of *Thelychiton biconvexus* (Jones) or *Dendrobium speciosum* var. *boreale* (Adams).  
Photos by Gerry Walsh

