

A Bit About the Rock Orchids

(*Dendrobium speciosum* Complex) of Capricornia.

By
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Of all the epiphytic orchids native to Australia, probably none of them is as easily recognised as *Dendrobium speciosum*. Show a pot full of it to John and Maryanne Citizen in any suburb and they'll almost certainly know what it is. They might call it a bush orchid, a tree orchid, a rock orchid, a king orchid, or even a rock'lily' - but they and you will still understand each other.

Mention the Latin name to them and you'll notice a little snigger.

"What did he say it was?"

"I think he means it's a bush orchid".

"Oh, righto - why didn't he say so in the first place?"

"Dunno, he must be a bit of a dill"

For many years the world and I were quite at ease with this most basic determination of course. Then of course, a little bit of knowledge has, for generations now, been described as a very dangerous tool. An especially wise expression indeed, because some of the 'dills among the masses now charged forth with their own theories and thoughts on a whole range of topics. Native orchids were not spared. While they now possessed the bullets of knowledge, it could be seriously argued that many of the dills in the pickle jar were firing them from underpowered weapons - creating confusion in their wake.

So now this particular dill is going to charge ahead with a couple of his own bullets about the forms of *D. speciosum* from around the Tropic of Capricorn (central Queensland), and he'll probably shoot himself in the foot no doubt. Serves him right.

From when it was first described by Stephen Clemesha in *The Orchadian* 7(5) in 1982, *D. speciosum* var. *capricornicum* has been poorly known and certainly poorly understood.

In *Australian Orchid Research* Vol 1 (1989), Mark Clements transferred the five accepted forms of *D. speciosum* into separate species. But he suggested that var. *capricornicum* is no more than a form of *D. speciosum* var. *curvicaule*, which is generally accepted as having its southern limit at the Eungella region inland from Mackay, several hundred kilometres north of the Tropic of Capricorn. It has been suggested that var. *curvicaule* exists in the Dipperu National Park, about 100 kms to the south of Eungella. This park is no longer open to the public but consists mostly of low altitude riverine flood plains and wetlands and is unlikely to support *D. speciosum* habitat.

In the *Australian Orchid Review* 55(6) back in 1990, Steve Clemesha and David Banks transferred all six varieties of *D. speciosum* to sub species level, thus returning var. *capricornicum* to its own little pedestal. Not to be outdone, Alick Dockrill, in the revised edition of *Australian Indigenous Orchids*, Vol. 1, (1992), assigns the whole lot back to mere varieties of the one and only bush orchid, or to be nicely correct, *Dendrobium speciosum*.

I won't go over the original Clemesha description in minute detail. But in the broadest sense, the things that set var. *capricornicum* apart from the other varieties of *D. speciosum* are its apparent dwarfed vegetative characteristics and its inclination to dwell in close proximity to the Tropic of Capricorn. Also, some of the more coastal forms seemed to flower several months earlier than those from further inland. Clemesha gave three major areas of distribution for var. *capricornicum*. These are the Carnarvon Gorge (about 300 kms inland), the Blackdown Tableland (180 kms inland) and the coastal ranges and volcanic plugs around Rockhampton and the coast. Basically the *D. speciosum* occurs within approximately 100 kms of the tropic and 300 kms west to east but with large tracts of unsuitable habitat between these three major strongholds.

Over the past 13 years since I acquired my first specimen of var. *capricornicum* I have become more and more entangled in an internal struggle to define just what this variety really is. I gradually come to realise that there really

wasn't anybody around my neck of the woods who could convincingly shed light on my questions.

After getting into severe arguments with myself, I came to realise that this puzzlement was becoming a threat to my wellbeing. If I was going to retain my sanity I needed to get off my rear end and head north to investigate the situation in person. What I found was mostly confusion but at least I had first hand knowledge to sift through and hopefully digest with positive results. So here's what I learnt.

Firstly, I refuse to enter into the debate as to whether it is a species, sub-species or a variety. I found out one thing for certain that the plants of *D. speciosum* that grow around the Tropic of Capricorn are certainly different from the forms that occur further north and south of that imaginary line.

One aspect concerning *var. capricornicum* distribution is black and white to me: the plants from the Carnarvon, Blackdown and coastal areas bear no resemblance to each other at all. I see them as all quite distinct.

I doubt that such a sweeping observation could be made from merely looking at plants in a bushhouse. To get a feel for each region it was really necessary to be on site in the flesh. Only then could it be possible to see all the environmental aspects that affect the appearance and growth habit of plants in various areas and over as wide a range of specimens as possible.

My one visit to the Carnarvon Gorge was made in late October 1995. I was able to see around 100 plants clinging to the sandstone that the Gorge is famous for. Our visit was six weeks after the flowering season unfortunately. But it did allow me to make a couple of decisive observations that could not be noticed in the bushhouse situation.

Firstly, three separate clones were seen growing in trees. To my knowledge, no recording has been made of this epiphytic ability of so-called *var. capricornicum*. Conditions were dark and cool and they were quite close to a running creek. Rock-dwelling plants were common in the area as well. The only other epiphytic orchids in the vicinity were *Sarcochilus ceciliae* and *Sarcochilus dilatatus*, both of which were scarce. The clumping habit of the *D. speciosum* in Carnarvon is very reminiscent of the *D. kingianum* subsp. *carnarvonense* that is quite common in the Gorge, and is one of the distinguishing features which sets that form of *D. kingianum* apart from the type form. They each seem to readily send out new pseudobulbs from eyes several inches up from the base of the old pseudobulbs.

This leads to the formation of scrappy, witch's broom clumps of *D. speciosum* with growths that tend to cling flatter against their host substrates than is the case with other varieties. Clumps don't appear to form much in the way of size or compactness at all. However, apart from plants in full sun, which are tough and short-caned, as one would expect, pseudobulbs are not particularly dwarfed at all and commonly grow to 30 cm long. The few old inflorescences noted suggest that the act of flowering is not as commonly achieved as might be expected, but this is probably caused by the shady conditions where most plants were observed.

Bushhouse observations of the inflorescences and flowers themselves suggest an ancient association with *D. speciosum* *var. grandiflorum*. Flowers are mostly a bright yellow and have a tendency to form 'circles' with their lateral sepals. I have only flowered about eight clones in the bushhouse but one other trait is obvious in all of them. There is only a very short peduncle in the Carnarvon form, and this causes a bunching of flowers down in the leaves.

The Blackdown Tableland is a vast area of Sandstone escarpments and gorges that looms up lofty from the surrounding flat country between Emerald and Rockhampton. In fact it reminds me strongly of the drier sections of the Blue Mountains near Sydney. I've been up there twice: October 1995 and September 1999. There is a remarkable amount and a remarkable variety of *D. speciosum* up there. But I just can't reconcile much of it at all with the published accounts of what represents *var. capricornicum*.

During our wanderings around the Blackdown we saw plants that had flowered at sizes between tough little critters with bulbs only 8 cms long, all the way up to some as long and thick as my forearm.

Some also sported bulbs the equal in robustness to nearly anything I've seen in *var. speciosum* in New South Wales. On average however, length of pseudobulb was far in excess of the stated 15 cm maximum length for *var. capricornicum*, and 25-30 cms would seem to be a common size.

Variation in thickness of pseudobulb was another aspect of Blackdown plants. There were tall skinny ones as well as thick robust ones. That trend continued down to the shortest ones. All *D. speciosum* exhibits such variation I

know, but it was certainly much more obvious on Blackdown plants.

The real difference with Blackdown *D. speciosum* is in the flowers. Horticulturally speaking, they are, as a form, vastly superior to any other 'capricornicums'. In the main the inflorescences are more erect than either the coastal or the Carnarvon forms. As well, the flowers have more substance and are less spidery. Their real charm is found in the way that the flowers line up in nice rows. Flower colour is mostly light yellow with the odd cream. One piece sent to me turned out to be a very good white the only one of that colour I know of.

It seems to me that I've just described pretty well a typical plant of var. *curvicaule*. So, from my point of view, the Blackdown forms of *D. speciosum* are more representative of var. *curvicaule*. To further support this, a cross section of all the pseudobulbs from the Blackdown so far examined, shows distinctive egg-shaped, or flattened, pseudobulbs that taper only slightly at the apex just like in var. *curvicaule*.

On this point at least the Blackdown plants differ from both the Carnarvon form and the coastal form. The Carnarvon ones can be slightly elongated in cross-section but have a tendency to taper towards the apex and often have a ribbed appearance, reminiscent of var. *grandiflorum*. On the other hand, the coastal forms are virtually round in cross-section but they also tend to taper towards the apex.

The coastal form of var. *capricornicum* is limited in distribution simply because it has very little suitable habitat to utilise. Its home is the volcanic plugs that seem to erupt up from the flat country in the Rockhampton district. It also colonises suitable rocky sites in the dry ranges that are common about Rockhampton as well.

Ken Russell tells me there are some isolated plugs, a good deal further west and north of Rockhampton that support colonies of *D. speciosum*. As nothing was flowering at all during my 1999 visit to Blackdown and the coast, I didn't pursue these isolated outposts. In situ, I have only observed it on one volcanic plug. It was quite a rugged, steep environment and I would describe its occurrence as patchy. I have pieces from two other plugs as well and they are indistinguishable from specimens growing at my location. This is the form that Clemesha was referring to when he described var. *capricornicum*.

My observations are in agreement with Steve's in all but one of the major aspects. This is in the length of the pseudobulb. On my mountain, plants were seen with bulbs obviously over the published maximum length of 15 cms. Also, on one particularly heavily colonised ledge, there were several clumps around a metre wide. The bulbs in this clump were certainly around 30 cms long. These giants none-the-less conformed to Steve's point that the leaves are stiff and erect and that the 'nests' of leaves topping each bulb are obviously smaller in proportion to the pseudobulb size than in any other form of *D. speciosum*.

This dwarfism of leaves, regardless of bulb size, is the most distinguishing feature to look for when discussing var. *capricornicum*. This feature also maintains itself in the bushhouse despite the bulb size generally increasing under good cultivation the leaves will always look too small for the pseudobulb.

These big clumps were flowering in early September 1995. Steve states that the coastal form of var. *capricornicum* flowers around 8-10 weeks earlier (June-July) than the Blackdown and Carnarvon forms (mid September). This is certainly true in cultivation but not inevitable. They will flower occasionally in September like any other *D. speciosum*. However, as no other clumps on my mountain were flowering, I don't think these large clumps were typical of the usual flowering period in general.

The flowers are something of an enigma to me. Yes, they are usually a kind of dirty, dull white colour. The inflorescences are not crowded and have a long peduncle compared to the inland forms. I used to think that its flowers were fairly uniform in shape and represented no particular variety except perhaps a poor var. *speciosum* from NSW or even a very poor var. *curvicaule*.

Last year I flowered several plants originating from another volcanic plug. One of these was a typical shape but the other a perfect var. *curvicaule* shape. Colour was identical and typical. Plant form was typical of the coastal var. *capricornicum*. These two clones were collected personally by my benefactor and I'll vouch for his reliability. Once again I was totally confused.

If Clements had perhaps examined plants of *D. speciosum* like this maverick clone of mine, it's no wonder he determined the whole race of "capricornicums" to be of var. *curvicaule* in origin. This is certainly a possibility. I have seen plants of *D. speciosum*, with old spikes on board, growing on rocks at Cape Hillsborough, just north of Mackay

and 300 km north of these volcanic plugs. These plants were tiny and typical of *var. capricornicum* in size. Yet they must have been *var. curvicaule*, mustn't they? Or were they a northern outpost of *var. capricornicum*?

On the other hand, I have seen a lot of *var. grandiflorum* flowering in situ over the years, much of it south of Rockhampton. Huge plants with bulbs up to a metre long, and golden flowers up to 95 mm deep and inflorescences up to 75 cm long. I cannot think of a single plant of *var. grandiflorum* flowering off stunted 15 cm pseudobulbs amongst the hundreds I've come across. I've never seen small off-white flowers on a big *var. grandiflorum*, nor huge golden flowers on a *var. capricornicum*.

One feature that sets the coastal form apart from the inland forms, and indeed apart from all varieties in Australia, apart from *var. pedunculatum*, is the peduncle. It is very long, being 35% to 50% of the inflorescence length. "Capricornicum's" nearest geographical relatives, *var. grandiflorum* to the south and *var. curvicaule* to the north, have only short peduncles. So where has the very long peduncle come from in these coastal forms? I believe the coastal forms of *var. capricornicum* are more closely related to *var. curvicaule* than to anything else. I cannot get those Cape Hillsborough plants out of my mind.

Now I'll quickly summarise these words of wisdom into a clear and condensed form. The flower shape and form of these three 'races' of *D. speciosum* are notoriously variable and it is doubtful that any concise determination based on floral structure could ever be formulated.

The Carnarvon Gorge forms are, I believe, most closely related to *var. grandiflorum*.

The Blackdown Tableland form, in my opinion, is quite closely related to *var. curvicaule*.

The coastal forms represent a long isolated race of plants with links to *var. curvicaule*. These plants are easily recognised by their physical characteristics, which do not appear to diminish appreciatively under cultivation. They also maintain the trait of mostly flowering several months earlier than do all other *D. speciosum* varieties, even when in cultivation in temperate zones. The bushhouse tends to level out the flowering season of all *D. speciosum* varieties, no matter where they originated. But not these coastal forms from the tropic of Capricorn!

Conclusion? The Carnarvon and Blackdown forms of *D. speciosum* are not representative of the *var. capricornicum* as we know it and at present their status is not satisfactorily designated. The coastal form of *D. speciosum* is the only candidate for the title of 'capricornicum' but be it a species, sub-species or a form, is a matter for the individual. I will continue calling this 'race' *Dendrobium speciosum var. capricornicum*.

What to call it is best left entirely up to the whim of any dill willing to stick his or her neck out. But don't push in, because the queue starts behind me.

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