

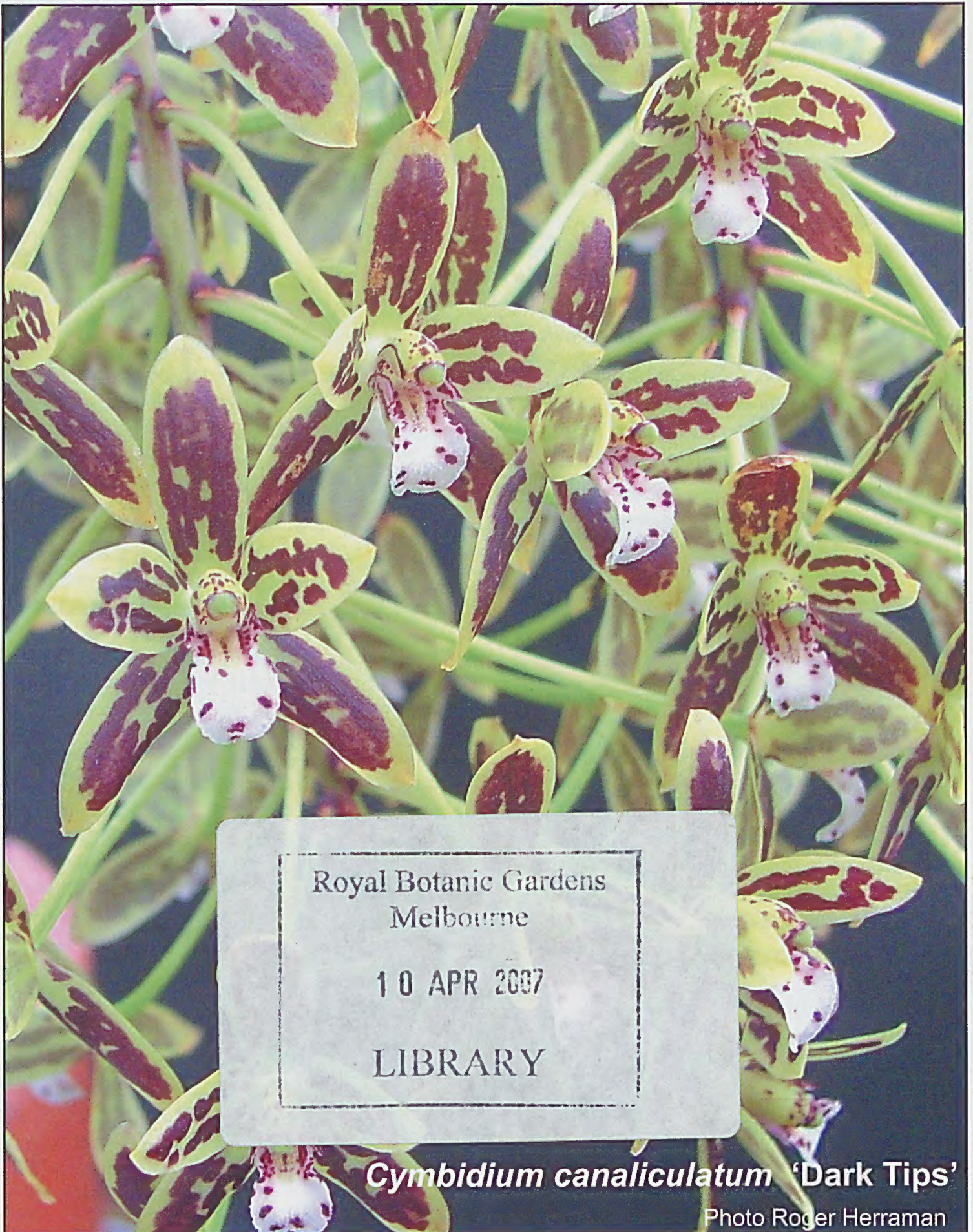
The Orchadian

Volume 15, Number 7

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March 2007

Official Journal of the Australasian Native Orchid Society



Royal Botanic Gardens
Melbourne

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Cymbidium canaliculatum 'Dark Tips'

Photo Roger Herraman

The Orchadian

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Editorial

Three things of importance in this issue. Firstly, the Conference in Queensland has been cancelled, page 292, Australian Orchid Research Volume 5 is now available, details on page 293 and most important is the threat of mining in the Barrington Tops, simply because some areas are not National Park. In the back pages of this issue are some details on this issue. Something ANOS Council will be keeping an eye on. We have two great articles, one from Peter Dowling on *Dendrobium Kayla* and one from Roger Herraman on the cultivation of *Cymbidium canaliculatum*. Two new species described by David Jones, *Corunastylis clivicola* and *Stegostyla ustulata* from the ACT area.

I have to keep this editorial short as I have little room. I have very few articles for the June issue so if you can help out start writing and taking photos as I will need them a.s.a.p.
Peter, Editor.

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7 February 2007

To all A.N.O.S. members

The management committee of the A.N.O.S. (Qld) Kabi Group Inc is disappointed to have to advise the cancellation of the 6th A.N.O.S. Conference & Show scheduled to be held in Brisbane on 29 August – 2 September 2007.

Progress on the planning and organisation for the event was difficult to obtain and when a number of members of the organising sub-committee recently resigned including the chairperson, the ANOS Kabi Management Committee took the opportunity to review the handover data and reassess the viability of the event. The budget was updated with the latest costs, some apparent inconsistencies and omissions were corrected and a revised revenue stream was projected. From the data provided we were unable to establish any position on advertising, marketing, sponsorship, display layout and requirements or the Guest Speaker program. The A.N.O.S. Kabi Management Committee then undertook a risk assessment of organisational and financial success given the short period remaining to the conference.

The assessment was that the risks were too great and the Management Committee elected not to proceed with the event.

This decision was not arrived at easily and resulted from a lengthy consultation and discussion process. The management committee admits to its shortcomings in not keeping abreast of the conference organisation and accepts the responsibility for the resulting outcome. We apologise to all societies and individuals who may have already undertaken plans or arrangements to partake in the conference and advise that all monies paid will be refunded as quickly as practicable. All donations will be compensated where possible.

Anyone seeking further information should contact me at the above addresses or on (07) 3289 1953.

Again I apologise to anyone who has made arrangements to attend the conference and trust these arrangements can be successfully undone.

Sincerely

Ross Harvey
Chairperson
Sixth A.N.O.S. Conference Sub-committee

AUSTRALIAN ORCHID RESEARCH

VOLUME 5, 2006



New Taxa of Australian Orchidaceae

AUSTRALIAN ORCHID FOUNDATION

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by David L. Jones and Mark A. Clements
et al

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1: Fourteen New Taxa of Orchidaceae from Northern and Eastern Australia and Two New Combinations from New Guinea: David L. Jones and Mark A. Clements.

2: Towards a Revision of the *Thelychiton speciosus* Group: David L. Jones, Mark A. Clements and Ish Sharma.

3: Miscellaneous New Species of Australian Orchidaceae: David L. Jones.

4: Towards a Revision of *Bunochilus* D.L.Jones & M.A.Clem. : David L. Jones and Dean T. Rouse.

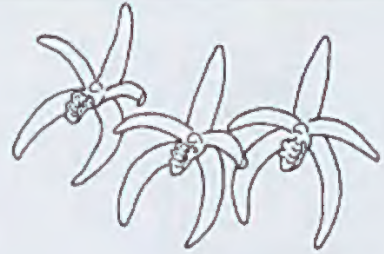
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Dendrobium Kayla 'Elizabeth'



Dendrobium Kayla 'John'

***Dendrobium* Kayla – An outstanding Australian orchid hybrid.**

Peter Dowling
76 Bowden Boulevard
Yagoona NSW 2199

The development of *Dendrobium* Kayla is to some the high point in the development of our native orchid hybrids to date. In recent years we have seen many outstanding examples of this hybrid. This article is as much concerned with the people who were responsible for its development as the background from which the hybrid is derived. I will attempt to show that those involved in the development of this hybrid had an intimate understanding of the cultural requirements of each species involved and were prepared for a long hard slog. They were breaking new ground in the future of hybridising Australian native orchids.

This article is in two parts. The first is concerned with the four species which contribute to this hybrid providing basic information about them including the range, altitude, natural environment and descriptions of their racemes, inflorescences and growth habits. The second part investigates the process in which *D. Kayla* evolved. Based upon available information from the hybridists and those who have grown the various plants over the years.

D. Kayla is a distinctive hybrid which has been developed using three different plants *D. fleckeri*, two infusions of *D. speciosum* and one *D. jonesii* and one *D. falcorostrum*. The result had been a surprising high standard across all seedlings produced. The vegetative inheritance is variable. However, there is a remarkable consistence in its round flower shape. Flowering period is late August to early October with sporadic flowering as late as January. Colours range from white, cream, yellows, and pale to deep apricot tones. Flowers vary in size from 20 mm to 45 mm. The labellum is generally flat, being dominated by its *D. fleckeri* heritage. The labellum colours are also variable. Flower spikes are generally produced from the last season's new pseudobulbs usually one at a time. The raceme is generally quite thick and vertical with up to fifty flowers beautifully arranged. The habit of the raceme is attributed to the strength provided by *D. speciosum* var. *speciosum* 'National White' HCC/AOC-OSNSW. Flowers will remain in good

condition for up to fourteen days provided the weather remains cool.

The down side of growing this hybrid is attributed to the combination of species in its heritage. *D. Kayla* is a relatively slow grower, and usually produces only one or two new pseudobulbs each year. Rarely a mature plant will produce more than one raceme at a time. They resent regular potting, and in general should be treated much the same way in which, *D. speciosum* var. *speciosum* 'National White' HCC/AOC-OSNSW is grown.

Colin Brandon (Col), of Engadine made *D. Kayla* in 1988 and registered it in 1995. The registration came about from the use of *D. Lynette Banks* and *D. Tweed*.

According to Col he used as the pod parent, his *D. Lynette Banks* 'Foxtail' a hybrid he made in 1978 using David Cannon's *D. Eureka* and Col's renowned *D. speciosum* var. *speciosum* 'National White' HCC/AOC-OSNSW.

The pollen parent was *D. Tweed*, a cross Col made in 1977 and registered it 1983. The parents of *D. Tweed* had two very well known orchids as parents. The pod parent was *D. Peter* 'Corrigan', a plant he acquired from Murray Corrigan in 1975 and pollen parent *D. Sunglow* 'Ira', which he acquired from Roger Bedford in 1970.

D. Sunglow was the result of crossing *D.*

speciosum and *D. fleckeri*. Registered by David Cannon in 1980.

Pod parent of the cross was *D. Lynette Banks*, which is *D. Eureka* cross *D. speciosum*. *D. Eureka*, was made using *D. fleckeri* and *D. jonesii* also registered by David Cannon in 1980.

<i>D. Kayla</i> made 1988 Registered by Col Brandon 1995	= <i>D. Lynette Banks</i> made 1978 Registered by Banks 1983 X	= <i>D. Eureka</i> Registered by Cannon 1980 X <i>D. speciosum</i>	= <i>D. fleckeri</i> X <i>D. jonesii</i>
	<i>D. Tweed</i> made 1977 Registered by Col Brandon 1983	= <i>D. Peter 'Corrigan'</i> Registered by Roger Bedford 1972 X	= <i>D. fleckeri</i> X <i>D. falcorostrum</i>
		<i>D. Sunglow 'Ira'</i> made 1970 Registered by Cannon (Bedford) 1980	<i>D. speciosum</i> X <i>D. fleckeri</i>

This chart reflects the time of its development. As a result *D. Kayla*, contains the following the parentages of primary species¹;

<i>D. speciosum</i>	37.50%
<i>D. fleckeri</i>	37.50%
<i>D. jonesii</i>	12.50%
<i>D. falcorostrum</i>	12.50%

Each of these species is arguably among the most impressive of the *Dendrobium* species.

The development of *D. Kayla* has been a very slow process, which has taken the best part of thirty years to evolve. The reason for this is due to the genetic background of each of the species involved. Each one of these four species has a reputation as slow starters from seed. Each species needs to be a considerable size before they will flower. In the purist hybridist opinion

we probably should not have gone in this direction as one of the golden rules has been ignored i.e. Hybrids should be vigorous growers! As a result they have passed on these traits to their children. The following is a brief summary of each of the four species highlighting in particular the area they grow naturally and factors contributing to slow growth in cultivation.

***Dendrobium falcorostrum* Fitzg.**

General Comments

Commonly called the Beech or Dorrigo Orchid. According to most authorities there are two plant forms occurring in nature. One is slender and grows to 50 cm in height. The other is short and stocky growing to 15 cm in height. I have seen both types growing side by side on Mount Moonbil, Megan 1042 m, W Rees Rd., Fernbrook, head of Dear Park Creek at 1185 m, and Beaumont's Road, near Dorrigo. I have noted that the shorter

type is often growing in more exposed conditions. Local Dorrigo growers suggest that in cultivation the shorter types often grow to similar heights as the slender form². On the escarpment of Barren Mountain, north of the New England National Park at 1437 m, we find another form growing which is both slender and short with darker green pseudobulbs, smaller flowers, which have distinct purple markings on the back of the petals shortly before opening with fewer leaves seen in the type form.

D. falcorostrum produces from 2 to 5 leaves emanating from the apex of the pseudobulbs. The leaves are ovate from 6 cm to 14 cm long by 1.5 cm to 3 cm wide. Leaves are thin. The flower spikes are often drooping from 3 cm to 8 cm long and carry from 2 to 25 flowers. The flowers are from 3 cm to 4 cm and occasionally to 4.5 cm. Its crystalline flowers have relatively broad sepals and petals, which open widely in most clones. The labellum has a Y shaped ridge and has yellow and purple markings. The labellum is unusual; the front lobe curves downward with a long upward point, forming the shape of a falcon's beak, hence the species name³.

Distribution

The southern limit of this species is the southern slopes of the headwaters of the Barrington (Barrington Tops), Hastings, Maclay, and Bellingen Rivers and to the northern limit on the Tweed and McPherson Rivers (Mt. Mistake) in southern Queensland⁴. The western limit is Mt Chalundi, North West of Dorrigo at 1377 m (probably extinct)⁵.

Habitat

Found at high altitudes usually above 600 m where rainfall averages up to 1700 mm per year and mists are common all year round. This species generally grows in the beech forests of the cool temperate rainforests, predominantly on the Antarctic Beech (*Northofagus moorei*) and occasionally on the Hoop Pine, (*Araucaria cunninghamii*), Coachwood (*Ceratopetalum apetalum*), on

large tree ferns (*Dicksonia antarctica*)⁶. In some locations such as Barren Mountain in the New England National Park it can be found growing on rocks. *D. falcorostrum* grows high on the trunks and limbs of the trees, where the foliage above, protects them from frost and high temperatures in summer. Plants can be found growing in masses along the top of the limbs and often covering the entire circumference of the trunk or limbs of the tree. The size and condition of some plants indicate that they are probably of great age. Human activities such as road building can change the natural drainage, which makes the ground around the rainforest dryer in places. This and long periods of natural low rainfall is causing the Antarctic Beech to suffer from dieback of the crown. This exposes *Dendrobium falcorostrum* to extremes in the weather, many orchid communities are now dying. Usually in a healthy beech tree it is difficult to see plants from the ground. When you do it is probably because of crown dieback!

Growth in nature

D. falcorostrum is a very slow grower in its juvenile stage. Usually in its natural state it will take up to five years to flower. They produce one or two new growths each year in late spring to early summer, which matures quickly. Once growths are about 15 cm long it will begin to flower. At this stage the plant will begin to produce more and more pseudobulbs and the plant will increase at a rapid rate. Due to high rainfall and continual mists the plants are usually wet during the early mornings and afternoons. The plants are attached firmly to the rough scaly bark of the tree; the roots collect nutrients from decaying leaves.

Flowering

Flowering of *D. falcorostrum* is inconsistent. Some years flowering will be light while it builds up more plant mass, in other years the whole plant will flower. It flowers from late August to early October. Flowers in nature will remain open up to eighteen days provided that the weather remains cool. It requires cool winters to produce good

flowering.

Hybridisation

D. falcorostrum has been widely used in hybridisation. It tends to be an unreliable pod parent, better results are usually achieved using the orchid as a pollen parent, as in its natural habitat we see few pods on plants. My experiences in attempting to line breed this species indicate that there could be a high percentage of sterile plants in the wild. If you find a plant that will set pods it will usually do so in abundance. It passes on to its progeny a number of desirable characteristics such as, flower colour, labellum shape, habit of raceme, its vegetative growth as well as perfume. On the negative side flowers tend to have a relatively short life and plants can be difficult to maintain in cultivation in hot dry areas.

Dendrobium fleckeri Rupp et C.T. White

General Comments

The pseudobulbs are from 10 cm to 40 cm high and quite thin 3 mm to 5 mm thick. Shorter pseudobulbs will generally remain upright. The taller pseudobulbs can become elongated and drooping. Two or three leaves are borne at the top of the pseudobulbs, oval in shape and are up to 8 cm long by 2.5 cm wide. This species carries from one to four flowers on a short peduncle. The flowers are thick in texture and usually about 25 mm to 30 mm across and open fully. The flowers emit a musky fragrance and are white, yellow-green or apricot yellow in colour. The sepals are broad at the base and taper up sharply. The leading edge of the labellum is covered with white dense hairs and also bears three keels. Is also known to produce aerial growths^{7,8}.

Distribution

The natural range of this species is the south-eastern Cape York Peninsula, extending from the Johnstone River to the Annan River⁹.

Habitat

This species grows at the top of mountains in tropical rainforests. It usually grows from a minimum of 800 m up to 1550 m. It is found growing on trees and rocks in areas sometimes exposed to the elements. This region experiences regular dew fall and fog, like *D. falcorostrum* it experiences foggy periods during the mornings and late afternoons. Even though *D. fleckeri* grows in tropical regions it grows at considerable altitude where nights can get quite cold, therefore it can be grown in the cooler regions with ease.

Growth in nature

There are two distinct forms of this species. One is taller and with more slender pseudobulbs. The other is shorter with more robust leaves and pseudobulbs. The more exposed the plants are the shorter the pseudobulbs. Until plants are of sufficient size their early growth is slow. Once their optimum size is reached, growth is quite rapid.

Flowering

The usual flowering period for this species is late August to early January and will often continuously flower for two months. Flowers last up to fourteen days¹⁰.

Hybridisation

D. fleckeri is sought after as it passes on to its progeny the distinct shape of its labellum, without the dense ciliate margin of the midlobe, The distinct yellow will be passed on when it is used with species that are less dominant in colour for example *D. falcorostrum*. As *D. fleckeri* often produces one to three flowers on a raceme this characteristic is often passed on, reducing the flower count of the hybrid. Hybrids with *D. fleckeri* in their background often inherit the characteristic of being very slow starters. On the other hand hybrids are likely to flower as late as January¹¹.

Dendrobium jonesii Rendle

At the time there were two main types of *D. jonesii* (known as *D. ruppianum*) they are *D.*

jonesii and *D. sp. aff. jonesii*. I understand that David Cannon used *D. sp. aff. jonesii* (as *D. ruppianum*) when he registered *D. Eureka* in 1980.

General Comments

Pseudobulbs are fusiforme 15 cm to 50 cm in height and 1.5 cm to 4 cm in diameter. Leaves consist of two to seven close to the apex. The leaves are generally thin and ovate and leathery, from 5 cm to 15 cm in length to 2.2 cm to 6 cm across. One to four racemes are from 15 cm to 40 cm in length, which the flowers do not always open fully. The peduncle shorter than the rhachis and bear up to thirty five congested flowers on pedicels about 2 cm long: The flowers are from 14 mm to 20 mm across. Flowers are white in colour and turn cream as the flower ages^{12, 13}.

Distribution

The southern limit of *D. jonesii* is the ranges in the north west of Mackey in Queensland extending to the north around the Iron Range in Cape York¹⁴.

Habitat

This species grows on trees and rocks on the fringes of sub tropical rainforest and wet sclerophyll forests, and on the higher tops of rainforest trees: from 150 m to 1400 m above sea level. In open sclerophyll forest this species is commonly found on *Casuarina* sp. trees, where they receive fairly high levels of light. When growing on the steep slopes plants receive moisture from the high humidity drawn upward from the valleys below.

Growth in nature

When growing on trees specimens grow into very large plants with up to hundred pseudobulbs. Those on rocks are generally considerably smaller. Plants receive excellent air movement and plenty of moisture during the wet season when the temperatures seldom exceed 30°C and rest during the dry over winter¹⁵.

Flowering

Flowers between July and November during the end of the dry season. Flowers will last up to ten days.

Hybridisation

Generally *D. jonesii* does not dominate with either its floral or vegetative characteristics. It does however pass on its ability to produce good numbers of flowers. The broad midlobe of the flower's lip is also often passed on to its progeny¹⁶.

Dendrobium speciosum Smith var. *speciosum*

General Comments

Called the 'Rock Lily' in New South Wales. A large plant with pseudobulbs growing on mature plants from 20 cm to 60 cm in height. The pseudobulbs are thicker at the base than at the top, which contain two to six leathery leaves growing 10 cm to 25 cm long and 4.0 cm to 8 cm in width. Racemes are up to 80 cm long and bearing from 20 to 150 flowers. Flowers vary from white, to a golden yellow, but generally a soft cream. Some clones are striking as the centre of the petals and sepals are white increasing to cream towards the outer surfaces. Flowers range from 2.5 cm to 4.5 cm from the dorsal to lower sepals, at the end of a pedicle 20 cm to 35 cm long. Petals tend to hang forward in many clones. The labellum tends to be 'V' shaped¹⁷.

Distribution

This species has a wide distribution; just south of Genoa in Victoria; north to Bulahdelah in central New South Wales and in the west, on the sandstone escarpment around Rylstone.¹⁸ Some researchers maintain that this species occurs as far north as the Darling Downs in Southern Queensland¹⁹.

Habitat

Predominantly this species is found on sandstone rocks in a multitude of areas that are exposed to frost and severe heat, and on trees from lightly timbered country to

high up in rainforest trees. Due to extensive human development of the sandstone areas in its range, the quantity of plants now seen in the bush has rapidly declined over the past fifty years.

Growth in nature

D. speciosum var. *speciosum* is variable usually depending upon the location where it grows. In Victoria we find specimens that are short sometimes fat stems; on the ranges of the reaches of the Shoalhaven River in places that are somewhat wetter, with lower transpiration of the atmosphere the specimens are taller than the type form with smaller flowers. The type form usually described from the edges of the sandstone escarpment of the Cumberland Plains around Sydney, where they predominantly grow on the eastern side in open forests have medium size pseudobulbs producing both large and small flowers.

The size of individual plants varies considerably from area to area and clone to clone. For example in the Royal National Park, just south of Sydney we once found large plants with 100's of pseudobulbs growing in near vicinity of plants of probably similar age but stunted. Early orchid enthusiasts who collected these plants maintain that the stunted forms continue to be slow in cultivation, whereas the larger specimens continue to grow at a rapid rate each year, given the right conditions²⁰. Contemporary growers of this species will recognise that some clones i.e. 'National White' have some particular cultural requirements to keep their plant growing strongly. To grow many of our native orchids successfully, growers should acquire an intimate knowledge about the area where a clone originated, along with other factors such as what was it growing on; position faced and seasonal weather etc.

Flowering

Flowers from as early as July to mid October. Will not flower prolifically each year. This depends on the season and the natural build up of new pseudobulbs.

Hybridisation

D. speciosum var. *speciosum* has been used considerably in developing new hybrids the extent is beyond the scope of this essay. However, it is not particularly dominant. Using this species with other species within the section *Dendrocoryne* we find the following evident.

- Habit of raceme often improved.
- More flowers per raceme, though less per raceme than on *D. speciosum*.
- Will usually pass onto its progeny its narrow 'V' shaped lip, midlobe that often is found to fold inward²¹.

Two clones of *D. speciosum* were used in the development of *D. Kayla*. The clone that D. Cannon used in the *D. Sunglow* cross is not known. However Col Brandon used *D. speciosum* var. *speciosum* 'National White' HCC/AOC-OSNSW as pod parent when he created *D. Lynette Banks*. 'National White' is a well-known clone found by Col in the Royal National Park in the vicinity of the area called Flat Rock. He maintains that *D. speciosum* 'National White' was found in the top of a large rocky area surrounded by dozens of smaller plants with inferior flowers. Col reports that he returned to the area a year or so later only to discover that a fire had been through the area. Regrettably a burning tree fell right into the centre of the original plant and destroyed it.

This is what Neville Roper had to say about 'National White' in June 2003. 'It was introduced to the orchid growing fraternity by Col Brandon who achieved one of the earliest quality awards with it when it gained HCC, number 297, from the AOC in September 1979. The virtues of 'National White' that were acknowledged by the judges on this occasion were; -

- Pristine white flowers offset by the dark purple markings on the labellum.
- The upright racemes with all flowers well above the leaves, no need for stakes with this one!

- The very generous flower count that is naturally arranged to form a perfect 'foxtail' display.
- Excellently formed flowers that put their arms (petals) and legs (sepals) in the air to present a flat face to the onlooker.

Overall the impression is one of a snow white orchid that has well and truly got its showbench act together. It was further honoured at the Australasian Native Orchid Conference in Wollongong where it was awarded section champion.

'National White' has small to average sized pseudobulbs with unique very broad, sometimes almost rounded leaves. It flowers reliably each season and will produce racemes from the secondary eyes under the leaves as readily as it does from the primary eyes. Occasionally it will produce so many racemes that the plant struggles to maintain the effort needed resulting in small, short-lived flowers. It prefers to be grown under shadier conditions than most other rock lilies, possibly because it lacks some pigment or because of its broad leaves. It is also quite intolerant of over fertilising as several growers who were going to "put decent canes on it" have found out to their regret. Otherwise *Dendrobium speciosum* var. *speciosum* 'National White.' HCC/AOC-OSNSW is a real gem which shouldn't be treated the same as any other rock lily²². *D. speciosum* var. *speciosum* 'National White' HCC/AOC-OSNSW, has some peculiarities, which must be taken into account if you wish to grow it successfully.

Each of the species reviewed have some identifiable characteristics that are similar.

1. In hybridisation, none are specifically dominant in passing on certain traits.
2. Each species have a relatively similar flower shape.
3. Colours are white, cream yellow or apricot (no red or pinks). Pink forms of *D. falcorostrum* have been seen they are quite rare.

4. All are relatively slow in growing to maturity.

D. falcorostrum and *D. fleckeri* both evolved in high altitude cloud rainforests of New South Wales and Queensland. *D. speciosum* var. *speciosum* is found from quite close to sea level to up to 1200 m and *D. jonesii* is found 150 m to 1400 m above sea level.

D. falcorostrum to a high degree and *D. fleckeri* to a lesser degree resent root disturbance. Requires cold winters to flower well. Does not cope with low humidity and hot temperatures well.

D. speciosum var. *speciosum* 'National White' has particular cultural requirements. *D. jonesii* in cultivation in Sydney should be kept relatively dry in winter and given plenty of humidity during summer.

The development of *D. Kayla* has a history going back to the very earliest days of the development of hybridisation in Australia. At this stage it is worth looking back at how this development evolved. According to David Cannon after he had produced *D. Sunglow*, he suggested that in future, hybridists should avoid creating large round flowers, "but rather hybridise them for their own individual charm and character"²³.

***Dendrobium* Eureka**

According to Col Brandon, David Cannon made *D. Eureka* in 1974, and registered it in 1980, using *D. fleckeri* and *D. jonesii*. Flowers are cream, gold to deep apricot and carry the predominant frilled labellum from *D. fleckeri*²⁴. The introduction of *D. jonesii* produced a flower count up to twenty flowers on very erect racemes. Vegetatively and florally hybrids are relatively midway between the parent species²⁵.

***Dendrobium* Peter**

D. Peter was registered as *D. fleckeri* x *D. falcorostrum* registered by Roger Bedford

on behalf of David Cannon in 1972. David used a crystalline white *D. falcorostrum*, which grew vigorously and flowered profusely. The result was a hybrid which vegetatively is relatively midway between its parent species. The colour of the flowers was generally a soft golden yellow with a striped golden labellum²⁶.

Col Brandon acquired a back-bulb of a good quality plant from Murray Corrigan, however the original plant has since died.

***Dendrobium* Sunglow**

D. Sunglow was the result of crossing *D. speciosum* and *D. fleckeri* and made by Ira Butler in about 1969²⁷. After the death of Ira Butler in 1972 the *D. Sunglow* hybrids were acquired by Roger Bedford, and registered by David Cannon (Bedford) in 1980. Col acquired his plant of *D. Sunglow* in 1973, indirectly from Roger Bedford, when the plant was about four years old, and called it 'Ira' after its hybridist. This is what David said about his recently registered hybrid in 1980. 'Very few seedlings were raised but the flowering has made it worthwhile. *D. Sunglow* flowers up to three times a year and has deep gold to apricot flowers with heavy red markings on the labellum and up to nine flowers per spike on early flowering²⁸.

***Dendrobium* Lynette Banks**

D. Lynette Banks = *D. Eureka* x *D. speciosum*. Col made this hybrid in 1978, using Cannon's *D. Eureka* and *D. speciosum*

var. *speciosum* 'National White'. The results were disappointing with few plants surviving to maturity. The first flowering date of his hybrid is unknown. The most notable clone was '**Snow**' later renamed '**Fox Tail**'. Subsequent remakes in general produced inferior results. Banks registered the hybrid in 1983.

***Dendrobium* Tweed**

D. Peter x *D. Sunglow* made by Col Brandon on 10.9.1977: first flowering 12.7.1981: Registered on 27.7.1983. The registration included the following description 'Yellow to cream flowers 40 mm to 60 mm in size. Sepals up to 10 mm. Petals up to 7 mm across. 10 to 15 flowers per raceme'. Col named it Tweed after the River in New South Wales, as at the time there had been a practice to name hybrids after rivers in New South Wales. The first flask of seedlings produced few plants. The seedlings grew well to start with, but due to a heat wave about 1982-83 they received a set back, from which few recovered. The most notable was *D. Tweed* 'Big Mother'. *D. Tweed* 'Big Mother' has been used as both pod and pollen parent on a number occasions without producing seed. It is not absolutely certain that 'Big Mother' was used in creating *D. Kayla*. The plants Col used were a *D. Peter* from Murray Corrigan and *D. Sunglow* 'Ira' originally bred by Ira Butler. *D. Tweed* 'Big Mother' has gained two grand champions at combined shows, an Award of Merit and a Silver Trophy – Ira Butler Award²⁹.

Awards

Name of Clone	Award	Date	Owner	Awarding Authority	Award Number
Big Mother	AM	19.9.91	Colin Jon Brandon	A.O.C.	1043
Big Mother	Silver Trophy	1992	"	ANOS*	

* Australian Native Orchid Society 'Ira Butler Trophy Awards'

Dendrobium Kayla

D. Lynette Banks 'Fox Tail' also known as 'Snow' x *D. Tweed*, possibly 'Big Mother', registered by Col Brandon on 15.9.1995. The name was selected in honour of Col Brandon's granddaughter.

This cross was made in the spring of 1988. Two flasks were produced as a result of this hybridisation. The seedlings grew to maturity relatively quickly, with the first flowering in Spring, 1993. Racemes are

upright thick and strong, up to 45 cm long and contain up to 15 flowers. The colour of the flowers range from snow white, to creamy white, cream, pale yellow to deep yellow to pale and heavy apricots. The most remarkable characteristic of the flower habit is the remarkable consistency; from the strength and upright habit of the racemes to the quality of the flowers. Arguably up to 95% of all plants flowered since 1993 have been rated very highly. The cross has produced a very low percentage of plants that should be consigned to Otto Bin.

Below is a listing of a number of awards to various clones of *D. Kayla*.

Name of Clone	Award	Date	Owner	Awarding Authority	A w a r d Number
ELIZABETH	HCC	18.9.96	Colin Jon Brandon	OSNSW	1536
ELIZABETH	HCC	18.8.96	"	AOC	1981
MARIE	HCC	18.8.96	"	OSNSW	1535
MARIE	HCC	18.9.96	"	AOC	1980
LONG LAST	HCC	10.9.97	"	OSNSW	1587
LONG LAST	HCC	10.9.97	"	AOC	2193
JOHN	HCC	10.9.97	"	AOC	2192
PERFECTION	AM	10.9.97	"	OSNSW	1583
PERFECTION	AM	10.9.97	"	AOC	2191
NOT NAMED	ASR	10.9.97	"	OSNSW	1588
NOT NAMED	ASR	10.9.97	"	AOC	2192
NOT NAMED	Certificate	1996	"	ANOS*	-
PERFECTION	Silver Trophy	1997	"	ANOS*	-
LONG LAST	Silver Trophy	2002	"	ANOS*	-
TOP CAT	Silver Trophy	1999	"	ANOS*	-
NATIVE 98	Silver Trophy	1998	"	ANOS*	-
TOP CAT		2004	Henk van den Burg	ANOS	-
		2004	Dennis Wood	OSNSW	-

- Australian Native Orchid Society 'Ira Butler Trophy Awards'

(Endnotes)

- ¹ A.N.O.S. Inc., *A Checklist of Australian Native Orchid Hybrids*, 7th Edition September 1998 p. 18, 24, 26, 29, 33, 212, 309.
- ² The late Stan Beaumont of Meldrum (1990) and Bill Feeney formerly of Mountain Springs, Megan near Dorrigo 1991-1999.
- ³ Alec W Dockrill, *Australian Indigenous Orchids Vol I*, 2nd Ed, p. 492.
- ⁴ Walter T Upton, *Dendrobium Orchids of Australia*, p. 52-53.
- ⁵ Alec G Floyd, *Rainforest Trees of Mainland South-Eastern Australia*, 1989, p. 159-160.
- ⁶ David L Jones, *Native Orchids of Australia*, 2nd Ed. 1993, p. 449-452.
- ⁷ Alec W Dockrill, *Australian Indigenous Orchids Vol I*, 2nd Ed, p. 484.
- ⁸ David L Jones, *Native Orchids of Australia*, 2nd Ed. P. 453, 455.
- ⁹ Walter T Upton, *Dendrobium Orchids of Australia*, p. 56-57.
- ¹⁰ Ibid, 56-57.
- ¹¹ Ibid, 56-57.
- ¹² Alec W Dockrill, *Australian Indigenous Orchids Vol I*, 2nd Ed, p. 472.
- ¹³ David L Jones, *Native Orchids of Australia*, 2nd Ed. p. 459.
- ¹⁴ Walter T Upton, *Dendrobium Orchids of Australia*, p. 65-67.
- ¹⁵ Walter T Upton, *Dendrobium Orchids of Australia*, p. 65-67.
- ¹⁶ Walter T Upton, *Dendrobium Orchids of Australia*, p. 65-67.
- ¹⁷ Alec W Dockrill, *Australian Indigenous Orchids Vol I*, 2nd Ed, p. 458-459.
- ¹⁸ Walter T Upton, *Dendrobium Orchids of Australia*, p. 65-67.
- ¹⁹ Alec W Dockrill, *Australian Indigenous Orchids*, Vol I, 2nd Ed p. 458.
- ²⁰ I had a discussion many years ago with the late Don Barnham who passed onto me some of his experience of growing *Dendrobium speciosum* collected many years ago from the Georges River.
- ²¹ Walter T Upton, *Dendrobium Orchids of Australia*, p. 164.
- ²² Neville Roper, *Dendrobium speciosum* 'National White' HCC/AOC-OSNSW Not Just a rock lily but a diamond lily! 'ANOS Port Hacking Group Bulletin' (October 2003), p. 11.
- ²³ David M Cannon, Native *Dendrobium* Hybridising, *The Orchadian*, Australasian Native Orchid Society. Vol 6 No 10. December 1980, p. 241.
- ²⁴ David M, Cannon, 'Native *Dendrobium* Hybridising', *The Orchadian*. Australasian Native Orchid Society. Vol 6 No 10 December 1980. p. 240.
- ²⁵ Shooter Reg: 'Dendrobium fleckeri and Some Progeny', *The Orchadian* Australasian Native Orchid Society, [Vol 10, No. 1 Spring 1990], 27-28.
- ²⁶ Ibid. 27-28.
- ²⁷ Ruth Rudkin. 'Ira Butler, The Man and His Work'. *The Orchadian*, Australasian Native Orchid Society. Vol 9 No 11 March 1990, p. 252-254.
- ²⁸ David M Cannon, 'Native *Dendrobium* Hybridising'. *The Orchadian*, Australasian Native Orchid Society. Vol 6 No 10 December 1980, p. 241.
- ²⁹ Ruth Rudkin. 'Ira Butler Trophy Committee Trophies Awarded for 1992'. *The Orchadian*, Australasian Native Orchid Society. Vol 10 No 11 Autumn 1993, p. 419.

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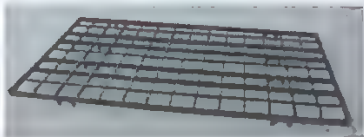
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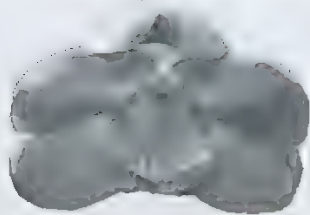
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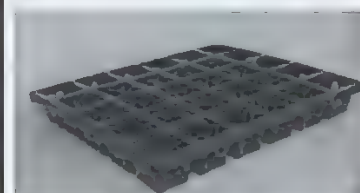
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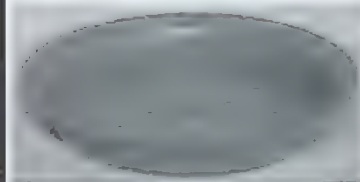


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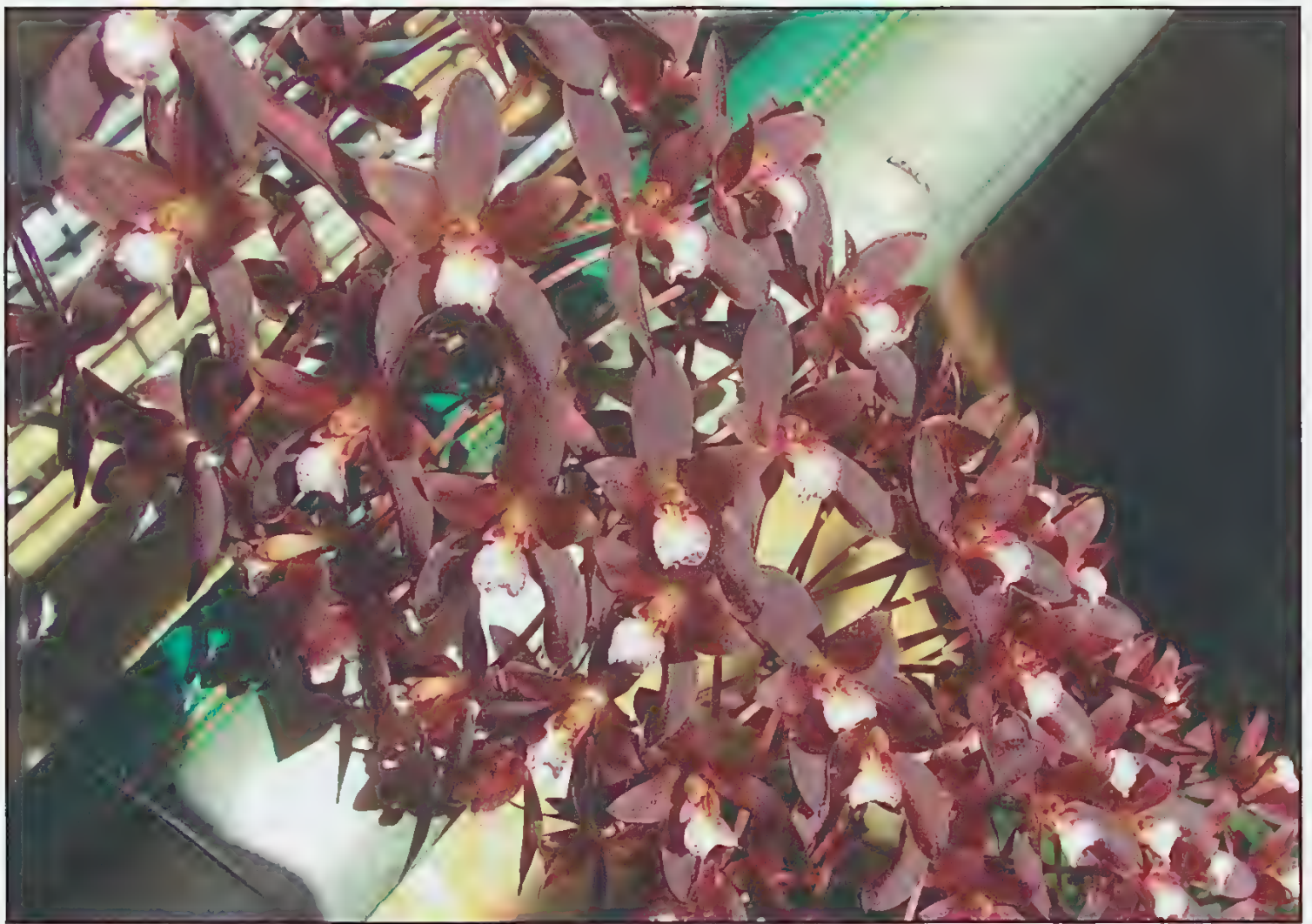
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Group 1 'sparkesii type' *Cymbidium canaliculatum* var. *sparkesii* 'Innot Black'



Cymbidium canaliculatum var. *sparkesii* 'Gamble'



Cymbidium canaliculatum var. *sparkesii* 'McLeod River'



Cymbidium canaliculatum var. *sparkesii* 'Mt Carbine'

Photos Roger Herraman

***Cymbidium canaliculatum*, not that hard to grow.**

Roger Herraman
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During 35 years of orchid growing in Adelaide, *Cymbidium canaliculatum* has always held a special place of interest for me. It has its own unique cultural requirements, which may present a challenge to some hobbyist growers, but the rewards that this species offers is well worth the effort.

Like most orchid growers, I started with cymbidiums and a few native dendrobiums but it did not take long before I began to dabble with other genera as well. Over the years the cymbidiums have all but disappeared from my backyard apart from the subject of this article. However, I still grow a number of native dendrobiums and quite a few plants from the *Oncidium/Odontoglossum* alliance.

Over the years I have been able to assemble a reasonable collection of representatives of *Cymbidium canaliculatum* and it is quite easy to see why it has been my favourite orchid. To me, its most appealing attribute is its variability. I have seen different plants in their natural habitat growing in trees only metres apart yet have flowers that are quite dissimilar in colour and size.

After making a number of trips to northern New South Wales and Queensland in recent years to see them growing in their own domain, I have developed a better understanding of their cultural needs and have observed the hardiness and resilience of the species. Plants can be seen growing in the most inhospitable environments imaginable, yet they seem to thrive.

In its natural habitat, *C. canaliculatum* can be found from the upper Hunter Valley in New South Wales, thence northward across the New England Tablelands of northern New South Wales and continuing on into Queensland almost to the northern tip of Cape York Peninsula. It then stretches westwards across the Gulf Savannah region of northern Queensland into Northern Territory and on into the Kimberley area of Western Australia. From this you can see

that it is a very widely distributed species and this is probably one of the reasons for its variability. Through New South Wales and Queensland it is almost always found on the drier western side of the Great Dividing Ranges. The only exceptions I have observed are from the upper reaches of the Hunter Valley in the Merriwa-Denman region and the area east of Scone. In northern Queensland it can be found much closer to the coast but in areas where there is a very distinct dry season.

Here in Adelaide, I have found that the northern forms of the species are generally more robust and vigorous in growth than the southern forms but their growing season does not begin until December. Generally, I find that most plants take up to two years to mature their new growth. This does not seem to affect their flowering as they will bloom on the semi mature bulb in the first year and then again more generously in the second year on the fully developed growth. Often they will flower again the following year or two from the same bulb making them a very productive plant.

C. canaliculatum is very adaptable in culture and accepting of a wide range of climatic conditions – much more so than many other orchids which may be found in the same areas. This particularly applies to the ‘sparkesii’ types where the climatic difference between their natural habitat and suburban Adelaide is, to say the least, extreme. Most plants I have seen in the bush tend to grow around 6 to 8 metres above the ground. Rarely are they seen higher than this and occasionally they may be found growing only a metre or so from the ground. In far north Queensland the

'sparkesii' varieties start flowering in early September and continue on through to mid October. The southern mottled forms begin to open in late September in their natural habitat and last for about a month.

Cymbidium canaliculatum is an undemanding orchid to grow provided certain cultural requirements are afforded to the plants. First and foremost, I believe this species is killed more often by over watering than any other cause. They require very little water, compared to most other orchids, even during their growing season, which is the summer-autumn period. My plants receive no more than one watering a week during this time. In heatwave conditions I rarely give them a mid-week drink. I occasionally flush the plants with rainwater over summer to reduce the build-up of unwanted salts in the pots. From around Easter time each year I stop watering and withhold it completely until late September when they receive an occasional drink during their flowering period and up until the start of new growth when normal weekly watering resumes. It sounds like I am being very tough on the plants but I have found this annual watering routine suits the plants and my conditions. In summer I do damp down the floor area occasionally during the week to improve humidity, which rarely reaches 50% at this time of the year. *C. canaliculatum* does enjoy a slightly alkaline environment. Some growers like to give their plants a little lime during the growing season but I believe in Adelaide where our water is already slightly alkaline, that this practice is not necessary.

Fertilizing is not a crucial factor in cultivation. I use many different products during the growing season, however I do favour a seaweed extract in early to mid summer to help promote good root development and disease resistance. Fertilizers are applied at a very dilute rate with watering. (i.e. weekly/weakly)

Potting mix is kept as simple as possible. Having experimented with a few different

ingredients over the years, I have now settled on a mix of mainly medium and coarse grade pine bark with a little diatomite, charcoal and river gravel added. Into this mix I like to add a very small quantity of eucalypt or pine mulch and a sprinkle of crushed dolomite. This has been my standard mix for some years now and seems to suit the plants very well. My proportions of each ingredient are estimated by eye only. When attempting to strike backbulbs or potting smallish plants, I remove the coarse bark from the mix.

On the subject of striking backbulbs, I have found, like in many other orchid genera, that the more bulbs attached together the better the chances are of a strike. Single bulbs can be difficult, especially if they are many years old. An ideal number of attached bulbs would be about 3 or 4. Patience is often necessary as they may take up to 3 years to strike and some never do.

Dividing and re-potting is not undertaken very often, as they are a species that like to be left undisturbed for as long as possible. Due to the minimal watering of these plants, the potting mix tends to last longer than with most other genera. I tend to pot on until the plant fills a 7" or 8" pot when it is usually time to divide. I don't like to let the plants grow much larger than this as they become a little cumbersome and difficult to transport. Also, because I like to hang as many plants as possible, I find the 7" pot size to be about the maximum size to suspend without causing too many problems for the supporting beams. When a large plant needs to be divided, I remove almost all the roots from the divisions to allow for a fresh start in the new potting mixture. This procedure certainly sets the divisions back a little with the possibility that they may not flower well the following year. However, that same plant has probably flowered profusely for the previous 4 or 5 years whilst being left undisturbed so I believe it is a small price to pay. Re-potting and dividing is carried out as soon after flowering as possible, generally during early December. Try to use



Group 2 'marginatum type'

Cymbidium canaliculatum 'Grantham'



Cymbidium canaliculatum 'Mt Mulligan'



Cymbidium canaliculatum 'Silver Downs'



Cymbidium canaliculatum 'Kalbeebea'

Photos Roger Herraman

deeper pots rather than the shallow squat type as I believe it is a species whose roots prefer to search downward for moisture rather than having it freely available at the surface. In its natural habitat, the roots may travel many metres through the decaying core of the tree branches and trunk in search of moisture and nutrient. The outer wood of the branch (either alive or dead) provides ideal insulation for these roots thus enabling the plant to withstand a wide range of temperatures.

As far as pests and diseases are concerned, *C. canaliculatum* does not cause many concerns. I think their very thick channelled leaves must offer some degree of protection against chewing and sucking insects. Occasional black spots will occur on leaves during a cold winter but this can be easily controlled with a broad-spectrum fungicide. If plenty of fresh air is available to the plants then fungal problems are reduced to a minimum.

Housing of *C. canaliculatum* is best with an enclosed structure so that rain, particularly cold winter rain, can be avoided. My plants are kept in a polycarbonate-clad house with no additional shading. The manufacturer claims a 55% light transmission which, to me, equates to a 45% shade covering. Most plants are hung well above head level with the leaves sometimes within a few centimetres of the roof. They do not suffer any leaf burn whatsoever which is testament to just how much sunlight and heat these plants can take and indeed need, for optimum growth and flowering. Large plants and struck backbulbs are benched approximately 80 cm above the ground. The house itself has reached temperatures exceeding 46°C on a number of occasions in hot spells during summer and usually goes down to around 5°C on cold winter nights. I use no artificial heating or cooling throughout the year but I have occasionally put a fan in the house on very hot still days to improve the air movement around the plants.

Due to the growing conditions for *C. canaliculatum* being quite different from

most other genera, I do not attempt to grow any other orchids in this area. The enclosure itself is one half of a growing house approximately 10 metres long by 3.5 metres wide and about 3 metres to the central ridge in height. The other half of the house accommodates the *Oncidium/Odontoglossum* alliance plants.

Having observed both a number of plants flowering in their natural habitat over a wide geographical region and the plants within my own collection, I believe that *C. canaliculatum* may be divided into four basic flowering colour forms with a limited degree of overlap between some.

1. Sparkesii type – These are located over a relatively small geographical area of far north Queensland. They are characterised by a solid red/black colour in the sepals and petals with a lip that may vary from deep pink to white with variable pink spotting. Also, the floral segments have no margins and the flower size varies with location. Occasionally there will be some faint patterning on the two petals. Examples of this form include 'Innot Black', 'Mt. Carbine', 'McLeod River', 'Normanby A' and 'Gamble'.
2. Marginatum type – The mid to dark chocolate brown form with clear margins evident on sepals and petals. This variety occurs both immediately north and south of the sparkesii habitat in far north Queensland. Some plants retain the deep red colouring but have obvious margins. I have observed this type to as far south as Hughenden in north Queensland and know that it occurs up to the northern part of Cape York Peninsula. I believe it is the form that also occurs across the Northern Territory and on into the Kimberley's. Typical of this variety are 'Cooktown', 'Grantham', 'Kalbeeba', 'Mt. Mulligan', 'Nhulunbuy' and 'Silver Plains'.

3. Southern mottled type – This form extends from central Queensland to the upper Hunter Valley in New South Wales and has the greatest geographical range. It varies from a very pale yellow with brown spotting to a predominantly brown colouring with the majority displaying a yellow/green background and brown markings. All have a whitish lip with pink spotting. They are typified by varieties such as ‘Rubyvale’, Moree 35’, ‘Dark Tips’, ‘Royale Downs’, ‘Bingara’, ‘Warwick’ and ‘Ashford Road’. This variety is probably the most commonly and successfully grown type in collections but is generally not as popular or appealing as the ‘sparkesii’ types.
4. Albino type – These are quite rare in nature and are known to occur only in a small number of locations. They are found in country usually inhabited by ‘sparkesii’ types and also further south in the Southern Mottled region. I think they are probably albino forms of the types found in the immediate vicinity. Colour varies from a pale apple green to a bright lime green that often intensifies to a yellowish green with age. All varieties have a pure white lip. They do not occur in large ‘colonies’ in their habitat. Typical of this form are ‘Alba’ and ‘Garry’. In cultivation they display the same vigour in growth as all other ‘canalics’ which is not always so within the plant kingdom.

Growing this species into specimen size plants is not a difficult task to undertake provided certain precautions are taken early on. As they do not enjoy being disturbed too often, it is a good idea to lessen the volume of organic ingredients in the potting medium, thus prolonging its life. A suitable replacement is more river pebbles, charcoal or very coarse perlite. When potting on is necessary, try not to disturb the root ball too

much. Also large pots retain a much greater quantity of moisture than small ones, so always water accordingly.

In Adelaide, the flowering season generally begins around mid to late October in an average year and continues through to early December. The earliest plants to flower are the southern mottled green/brown types with the northern ‘sparkesii’ clones opening from mid November onwards. Several *C. canaliculatum* hybrids including Brown Beauty, Little Black Sambo, Pied Piper and Iris Bannochie flower very late in the season, sometimes well after the species is finished. Some ‘sparkesii’ and ‘marginatum’ clones will produce an odd secondary spike during January and February but I generally remove them early because at this time they are in the middle of their growing phase and trying to flower again may impede the new season’s growth. I find if the weather stays hot they tend to grow faster. Their growing season is relatively short; from December to around late April.

In recent years I have attempted several crossings using *C. canaliculatum*. I have only tried primary hybrids with other *Cymbidium* species and have had remarkably few failures. It will be interesting over the next few years to see what influence *C. canaliculatum* has on these hybrids. So far, I have restricted myself to using only ‘sparkesii’ and the pure green ‘alba’ clones, however I believe the mottled green/brown forms offer more potential to the hybridist looking for highly marked flowers and something a little different.

So, don’t be afraid to ‘have a go’ at growing this delightful species. You will be rewarded many times over provided you go very gently with the watering. A specimen plant in a 7” pot can have anything up to 10 to 15 gently arching spikes each carrying up to 40 flowers.

Why would you want to grow anything else?

-oOo-



Group 3 'southern mottled type' *Cymbidium canaliculatum* 'Royale Downs'



Cymbidium canaliculatum 'Moree'



Group 4 albino 'type' *Cymbidium canaliculatum* 'Garry'



Cymbidium canaliculatum 'Alba'

Photos Roger Herraman

Rhizanthella slateri – recognition at last?

I regret I chose to put a question mark at the end of the title of this article but with my seemingly endless contact with members of local, state and federal governments I feel the need to state nothing is ever guaranteed, as with all manner of elected bodies anything can be changed at the whim of one person or the outside influences of a major financial donor. These days these contributors appear to be developers of differing persuasions but all determined to see their special project given the official seal of approval from governments eager for campaign cash.

Readers might be aware our mysterious Eastern Underground Orchid, *Rhizanthella slateri* was nominated for and received a listing as a Vulnerable Species under the NSW *Threatened Species Conservation Act 1995* (TSC Act 1995) on 6-12-2005. My local Council (Shoalhaven) was asked for comment on this nomination prior to the formal listing, as two specimens had been located within its boundaries. Being true environmental leaders the Council lodged an objection to the listing but fortunately this objection was ignored, however with the knowledge and expectation of the success of the impending nomination, Council approved a development (26-11-2005) on the land where the most recent local specimens had been uncovered, so naturally this is the reason for the question mark. This property is currently a vineyard with weeds more impressive than any visible grape vines. One can never be certain of anything where governments are involved although the intentions of my local Council are easy to interpret.

Early in 2006 a further nomination was lodged for increased recognition of the rare and threatened status of *R. slateri*. I was asked for and provided comment on the nomination and in early December 2006 the listing was posted on the NSW National Parks website. The nomination was for listing as a Vulnerable Species; however the NSW Scientific Committee has seen fit to not list the orchid as such but the entire population as an **Endangered Population**. The exhibition period for the final determination began on 8-12-2006 and ends on 9-2-2007. At least we can be assured this body has the best interests of *R. slateri* at heart and will not be swayed by outside influences.

All persons interested either in *R. slateri* or conservation in general would be aware of the immediate problems associated with this species. At Bulahdelah on the mid-north coast of NSW a road by-pass will decimate a large percentage of the population, along with the largest population of *Cryptostylis hunteriana* and a newly named terrestrial species, *Corybas dowlingii*. The NSW Roads and Traffic Authority (RTA) in their wisdom have decided to translocate all individuals of *R. slateri* and *C. hunteriana* which have chosen to survive for millennia in the path chosen for the by-pass to a site which is yet to be determined, in the misguided expectation both species will thrive. An expert committee has been formed to oversee the translocation and make reports of the process. I have stated in my most recent submission, the only reports made will be on the rapidity of the demise of any orchids involved in this ill considered exercise.

Features of the final determination are; the notation of all known sites beginning with the type site of Bulahdelah, the Watagan Mountains, the Blue Mountains, Wiseman's Ferry area, Agnes Banks and two sites near Nowra. Mention was also made of the most recent *Rhizanthella* species formerly described from the Lamington Plateau, as *Rhizanthella omissa*, although the new specific name was not used. The committee also noted the frequently destructive method of the accidental finding of most individuals of this genus. Of course the main concern expressed regarding the viability of the population is the construction of the road by-pass, including altered drainage to the habitat and subsequent weed invasion resulting from the clearing of vegetation. Population fragmentation and disruption of pollination have been considered as a threat as is collection by

orchid enthusiasts, although I prefer to think of collection as a lesser problem. I expect my faith in human nature might be disappointed but I would like to think any concerned orchid person would not consider installing a pickled sample in their trophy cabinet, which could not be shown to any respectable person. The publicity afforded this species has also been considered as a possible contributing factor in the decline of the population, as is the general environmental and demographic stochasticity due to the restricted area and small size of the population in the Great Lakes local government area. The committee continues with the observation, the population is facing “a very high risk of extinction” in New South Wales in the future as determined in accordance with the following criteria as prescribed by the Threatened Species Conservation Act 2002:

Clause 19

- (a) it is disjunct or near the limit of its geographic range
- (b) it is otherwise of significant conservation value

Clause 21:

The geographic distribution of the population is estimated or inferred to be highly restricted and:

- (a) a projected or continuing decline is observed, estimated or inferred in
 - (1) an index of abundance appropriate to the taxon
 - (2) geographic distribution, habitat quality or diversity, or genetic diversity

Clause 22

The estimated total number of mature individuals in the population is low, and;

- (a) a projected or continuing decline is observed, estimated or inferred in:
 - (1) an index of abundance appropriate to the taxon
 - (2) geographic distribution, habitat quality or diversity, or genetic diversity

Clause 23

The estimated total number of mature individuals of the population is observed, estimated or inferred to be very low.

The document was presented under the name of Associate Professor Lesley Hughes, Chairperson Scientific Committee.

My cynicism indicates some objections could be lodged by both the NSW RTA and Planning NSW as these are the departments involved. At this time some observant reader would note the absence of any input from the Environment Minister. This is because under Part 3a of the NSW Planning Act any development can be deemed to be “State Significant” by the planning minister and any environmental considerations from the Department of Environment and Conservation (DEC) are reduced to “advice only.” In theory a planning minister could nominate a garden shed on a vacant lot to be state significant, regardless of the value of either the garden shed or the land on which it is sited and there is no compulsion or obligation to heed any advice offered by DEC.

In regard to the translocation of *C. hunteriana*, no studies have been undertaken to assess suitability of the area for either pollinator or the hydrological requirements of this saprophytic species indicating a lack of thought and preparedness.

In conclusion, I should mention the RTA have decided to translocate *R. slateri* without any knowledge of the vegetative habitat, fungal requirements, pollinating vector, or the method of seed dispersal, so one can visualise how well prepared they are for this futile exercise. It is with the above points firmly embedded in my consciousness; I await the end of the exhibition period of the final determination with some trepidation, as it could prove to be either the salvation of *R. slateri* or the final solution.

Alan W Stephenson
National Conservation Officer
Australasian Native Orchid Society

-oOo-



***Cymbidium canaliculatum*, an amazing orchid.**

This beautiful Australian native *Cymbidium* must be one of the most varied species orchid in Australia. I do not know of another with so many variations in colour, or indeed, habitat.

Colours range from pale green, brown, purple, dull red, dark red (almost black), as well as numerous combinations of these colours (usually mottled). Recently, I was fortunate enough to see an almost yellow clone, growing on a tree in the Hunter Valley, about chest height from the ground.

The known distribution of these amazing plants, extends from the Hunter Valley in New South Wales, to Cape York in Queensland, through the Northern Territory and the Kimberly region of northern Western Australia. They are rarely seen in coastal regions except in tropical areas where odd plants may be seen near the coast.

Recently there were articles published in magazines, about the search for these beautiful orchids throughout some of the North Eastern areas of the country. I read these articles with interest and thus I have decided to write this short article to tell readers what may seem an unbelievable variation in temperatures under which these plants will grow. Whilst, as most people know, these orchids grow in very hot dry areas and some in humid regions, it will probably surprise many to learn that they also grow in areas of extremely cold winter temperatures.

As one of my sons owns a cattle property at Swan Vale, on the North West Slopes of the Great Dividing Range in New South Wales, I have seen these orchids growing on his property on White Box trees and experienced the cold conditions they grow under there and in the surrounding areas.

It is quite common for morning temperatures to get down to minus 12 degrees and on odd occasions minus 15 degrees.

Rarely does it snow, but there are winter days when the mercury doesn't get above 6 degrees all day. There is very little winter rainfall and the region is regularly quite

windy all year round. Summer temperatures rarely get above the mid 30s, with very little humidity.

These orchids not only survive there, but thrive there as the accompanying photograph of a magnificent specimen, (with me holding up the tree) will show. Compared to my height, the plant must be around 2.8 metres high by 1.8 metres wide. It does not appear to be worried by the harsh winter conditions.

Fred Fear.

-oOo-

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Two new species of Orchidaceae from the Australian Capital Territory and southern New South Wales.

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a 232 27A

Abstract

Corunastylis clivicola and *Stegostyla ustulata* from the Australian Capital Territory and southern New South Wales are described as new.

Key Words

Orchidaceae, *Corunastylis clivicola*, *Stegostyla ustulata*, new species, Australian Capital Territory, New South Wales, Australian flora.

Introduction

The Orchidaceae of the Australian Capital Territory has been studied by me for the last 18 years resulting in the description of 5 new species from the territory (Jones 1999, 2006a, 2006b, Jones & Clements 1999). Two further new species are described here.

Taxonomy

1. *Corunastylis clivicola* D.L.Jones, *sp. nov.*; affinis *C. rufae* (Rupp) D.L.Jones & M.A.Clem., sed floribus atropurpureis et viridibus; sepalis lateralibus tenuioribus, diffusis, basi gibberulis; labello obovato; columna alis profunde bifidis, differt.

Type: Australian Capital Territory. Black Mountain Reserve, Caswell Drive site, 13 March 2002, *K.J.FitzGerald* & *M.Garratt* (ORG 3873) (holo CANB 635422).

Description: Terrestrial tuberous herb. Leaf terete, 8-18 cm long, 1-2 mm wide, green; base reddish; lamina subulate, 12-20 mm long, 1.5-2.5 mm wide, closely sheathing the scape, ending 10-30 mm below first flower. **Inflorescence** 12-25 cm tall, bearing 5-30 flowers in a moderately crowded spike 10-35 mm long. **Flowers** porrect to semi-deflexed, c. 3.5 mm diam., dark purplish-black and green; scent not obvious. **Floral bracts** closely sheathing, ovate-elliptic, c. 2 mm long, c. 1.5 mm wide; apex apiculate. **Ovary** linear-obovoid, c. 2.3 mm long, asymmetrically arcuate. **Dorsal sepal** broadly ovate, 3.5-4 mm long, c. 2.5 mm wide, concave, cucullate, greenish with darker marginal bands; margins entire; apex long-acuminate. **Lateral sepals** porrect to semi-deflexed, narrowly linear-lanceolate, 4.5-5 mm long, 1.2-1.4 mm wide, shallowly gibbous proximally, widely divergent; distal margins involute; apex subacute, with

a vestigial gland. **Petals** spreading, ovate-lanceolate, 2.5-2.8 mm long, c. 1.2 mm wide, greenish with dark purplish lines; margins entire; apex acuminate. **Labellum** porrect, hinged by a short claw; apex suberect. **Lamina** obovate, 2.4-2.8 mm long, 1.2-1.5 mm wide, dark purplish-black, somewhat fleshy; distal margins irregular; apex long-acuminate. **Callus** occupying about half the area of the ventral surface of the lamina, extending nearly to the labellum apex, oblong-ovate, dark purplish-black, thickest and broadest above the base then usually tapered to the blunt apex; ventral surface colluviate, especially distally. **Column** c. 1.8 mm long, c. 1.2 mm wide, blackish; foot ligulate, c. 0.5 mm long, curved. **Column wings** deeply notched, the lobes unequal, not divergent; posterior lobe linear, paler, obtuse, entire; anterior lobe curved, narrowly deltate, blackish, acuminate; anterior margin minutely denticulate. **Anther** c. 0.8 mm long, with a filiform rostrum c. 0.3 mm long. **Pollinarium** c. 0.75 mm long; pollinia c. 0.6 mm long, yellow, coarsely granular; caudicle c. 0.5 mm long; viscidium c. 0.15 mm across. **Stigma** ovate-elliptic, c. 0.6 mm long, c. 0.5 mm wide. **Capsules** ellipsoid to obovoid, 4-5 mm long, c. 2 mm wide. **Fig. 1.**

Distribution and ecology: New South Wales, where widely but disjunctly distributed between Yetholme Trig near Bathurst and Carabost near Tumbarumba; also the Australian Capital Territory where mainly found in or close to Canberra. This species commonly grows on the slopes and ridges of low hills in dry open forest, usually among litter and where there is a minimal shrubby understorey. Soils are shallow clay loams, often stony. Alt. 700-950 m. Flowering: February to May.

Recognition: Within the "rufa group" recognised by the porrect to semi-nodding flowers which are commonly dark purplish black (including the labellum) with a green dorsal sepal (sometimes the flowers have green sepals and a purple-black labellum), very slender lateral sepals which spread widely and are only slightly gibbous at the base and, an obovate labellum with irregular distal margins and a prominent, raised, oblong to ovate-oblong callus. By contrast *C. rufa* has strongly nodding, uniformly pinkish to red flowers, thicker, less divergent lateral sepals that are strongly gibbous at the base and an obovate labellum, usually with smooth margins, and a mounded ovate-sagittate callus. Additionally in *C. clivicola* the column wings are deeply notched, more so than is usual in *C. rufa*, but this character can be difficult to discern and may be of limited value.

Notes: The flowers of this species sometimes exude a light but noticeable warm odour.

Conservation status: Widely distributed, often locally common and well conserved.

Etymology: The Latin *clivus*, ascent, elevation, hill and *-cola*, dweller, in reference to the preferred habitat of low hills and slopes.

Selected specimens (22 seen): New South Wales. Yetholme Trig, 23 Feb. 1986, *M.A.Clements* 3957 (CANB); c. 0.3 km along Abercrombie Caves road from turnoff with Crookwell road, 15 April 1989, *D.L.Jones* 3891 (CANB, MEL, NSW); 19.1 km NW of Braidwood towards Nowra, 16 Feb. 1992, *D.L.Jones* 9034 & *B.E.Jones* (CANB); Goulbourn, 3 March 2001, *D.T.Rouse* (ORG 3365) (CANB). Australian Capital Territory. Black Mountain (in fruit), 11 June 1969, *E.M.Canning* 2886 (CANB); Aranda side of Black Mountain, 2 March 1992, *C.H.Broers* 264 & *D.L.Jones* (CANB); Australian National Botanic Gardens, section 156, 24 Feb. 1988, *D.L.Jones* 2545 (CANB); W side of Black Mountain, 18 Feb. 1992, *D.L.Jones* 9044 (CANB); W slope of Black Mountain, 25 Feb. 1962, *H.S.McKee* 8968 (CANB); Gungahlin Hill (in fruit), 14 June 1998, *B.J.Wallace* (ORG 1427) (CANB).

2. *Stegostyla ustulata* D.L.Jones, *sp. nov.*; affinis *S. praecoci* (Nicholls) D.L.Jones & M.A.Clem., sed glandibus tepalinis flavibrunneis; labello multo longiore quam latiore; dentibus

marginalibus longioribus; callo longiore et angustiore; columna late ptera, differt.

Type: Australian Capital Territory. Eastern slope of Black Mountain, 3 Nov. 1992, *D.L.Jones* 10634 & *J.Jeanes* (holo CANB; iso AD, BRI, MEL, NSW).

Description: Hirsute, tuberous, terrestrial herb growing in loose groups. *Leaf* erect, narrowly linear, 6-16 cm long, 1.5-3 mm wide, reddish purple towards the base; trichomes relatively sparse, a mixture of transparent, eglandular trichomes to 1 mm long and shorter glandular trichomes. *Scape* 8-13 cm tall, very slender, wiry, with short trichomes similar to those on the leaf. *Sterile bracts* closely sheathing, narrowly oblong-obovate, 6-13 mm long, 2.5-3 mm wide, subacute, externally hirsute. *Floral bracts* closely sheathing, ovate to elliptic, 7-12 mm long, 3-3.5 mm wide, subacute. *Flowers* 1-3, 22-27 mm across, cream to white internally, yellowish brown to brown externally from sessile, globose glands; labellum white with a purple apex; column greenish, lightly blotched and barred with purple. *Tepals* glandular externally, the glands denser towards the apex; dorsal sepal strongly incurved over the column, lateral sepals porrect and widely divergent, petals widely spreading, the tips often drooping. *Dorsal sepal* obovate, 9-13 mm long, 3-4.5 mm wide, cucullate; apex subacute. *Lateral sepals* asymmetrically elliptic-lanceolate, 14-16 mm long, 3-4 mm wide, slightly falcate, subacute. *Petals* asymmetrically narrowly lanceolate, 12-15 mm long, 3-3.5 mm wide, falcate, acute to acuminate. *Labellum* attached by a short elongate base. *Lamina* obscurely 3-lobed, ovate-lanceolate in outline when flattened, 7-8.5 mm long, 4-6 mm wide, erect in the proximal third then curved forwards; apex recurved. *Lateral lobes* c. 1.8 mm wide, erect and column-embracing, entire or with 3-5 pairs of marginal teeth 2-5 mm long. *Midlobe* 3.5-4.5 mm long, with 9-13 pairs of linear-clavate marginal teeth 2-5 mm long, these decrescent to the apex. *Lamina calli* in 4 rows, extending nearly to the apex of the mid-lobe; stalks white; heads cream, the distal ones purplish. *Basal calli* 2-4, c. 0.5 mm long, nearly sessile; head more or less ovoid, curved. *Longest lamina calli* c. 0.7 mm long, gammate; stalk c. 0.4 mm long; head ovoid, papillate. *Distal calli* subsessile to sessile, irregularly shaped and arranged. *Column* erect, 6-7 mm long, 2.5-3 mm wide, recurved away

from the ovary at the base, incurved towards the apex, greenish, blotched and barred with purple, broadly winged; central ridge c. 1 mm wide. *Anther* c. 1.5 mm long, 1.2 mm wide, papillate; rostrum short. *Pollinia* four, c. 1.3 mm long, cream, flat. *Stigma* elliptic, c. 1.5 mm wide, sunken, green. *Capsule* obovoid, 10-13 mm long, 3-4 mm wide, greenish to reddish. **Fig. 2.**

Distribution and ecology: Occurs in the Australian Capital Territory and adjacent areas of New South Wales, more or less between Goulburn and Burrinjuck. Specimens from further south around Carabost may also be this species but require checking. Grows on the ridges and slopes of hills in open forest with a sparse to shrubby understorey. Soils are shallow gravelly loams and clay loams, often stony. Alt. 750-950 m. Flowering: late September to November.

Recognition: Characterised by cream to white flowers with prominent brownish sessile glands on the tips and external surfaces of the perianth segments, obscurely 3-lobed ovate-lanceolate labellum that is much longer than wide, 15-20 pairs of linear-clavate marginal teeth on the labellum, very short lamina calli and broadly winged column. The new species has affinities with both *S. dimorpha* from central and northern New South Wales and *S. praecox* from Victoria. *Stegostyla praecox* has prominent pink to red external glands, an elliptic labellum about as long as wide, with 10-15 pairs of shorter marginal teeth, longer calli and a narrowly winged column (c. 2.5 mm wide). By contrast with the new species, *S. dimorpha* has much larger flowers (30-40 mm across), greenish to brownish external glands, much longer marginal teeth and longer calli.

Notes: The flowers have a musky fragrance on hot days. In the ACT this species frequently grows sympatrically with *S. cucullata* and *S. gracilis*. It is always the first of the group to flower and natural hybrids are unknown. Usually the majority of flowers have brownish external glands on the perianth segments, but in occasional specimens the glands are pinkish. The labellum shows some degree of variation in the development of the lateral lobes (see figs 2d, e).

Conservation status: Moderately widespread, locally common and well conserved.

Etymology: The Latin *ustulatus*, brown, scorched, in reference to the prominent brown sessile glands on the external surfaces and tips of the perianth segments.

Specimens examined: AUSTRALIAN CAPITAL TERRITORY. S side of Black Mountain, 30 Oct. 1991, C.H.Broers 239 (CANB); Gungahlin Nature reserve, 15 Oct. 1996, D.L.Jones 14925 (CANB); Black Mountain reserve, 9 Oct. 1990, D.L.Jones 6711 (CANB); Australian National Botanic Gardens, 30 Sept. 1991, D.J.Mallinson 132 (CANB); near Vanitys Crossing, 22 Oct. 1991, D.J.Mallinson 152 (CANB); NEW SOUTH WALES. Alison Hone Reserve, W of Goulburn, 4 Oct. 1990, D.L.Jones 6685 (CANB); Burrinjuck Dam area, 30 Sept. 1995, D.L.Jones s.n. & B.E.Jones (CANB); Burrinjuck, hill near village, 14 Oct. 1998, D.L.Jones 15853 & 15860 (CANB).

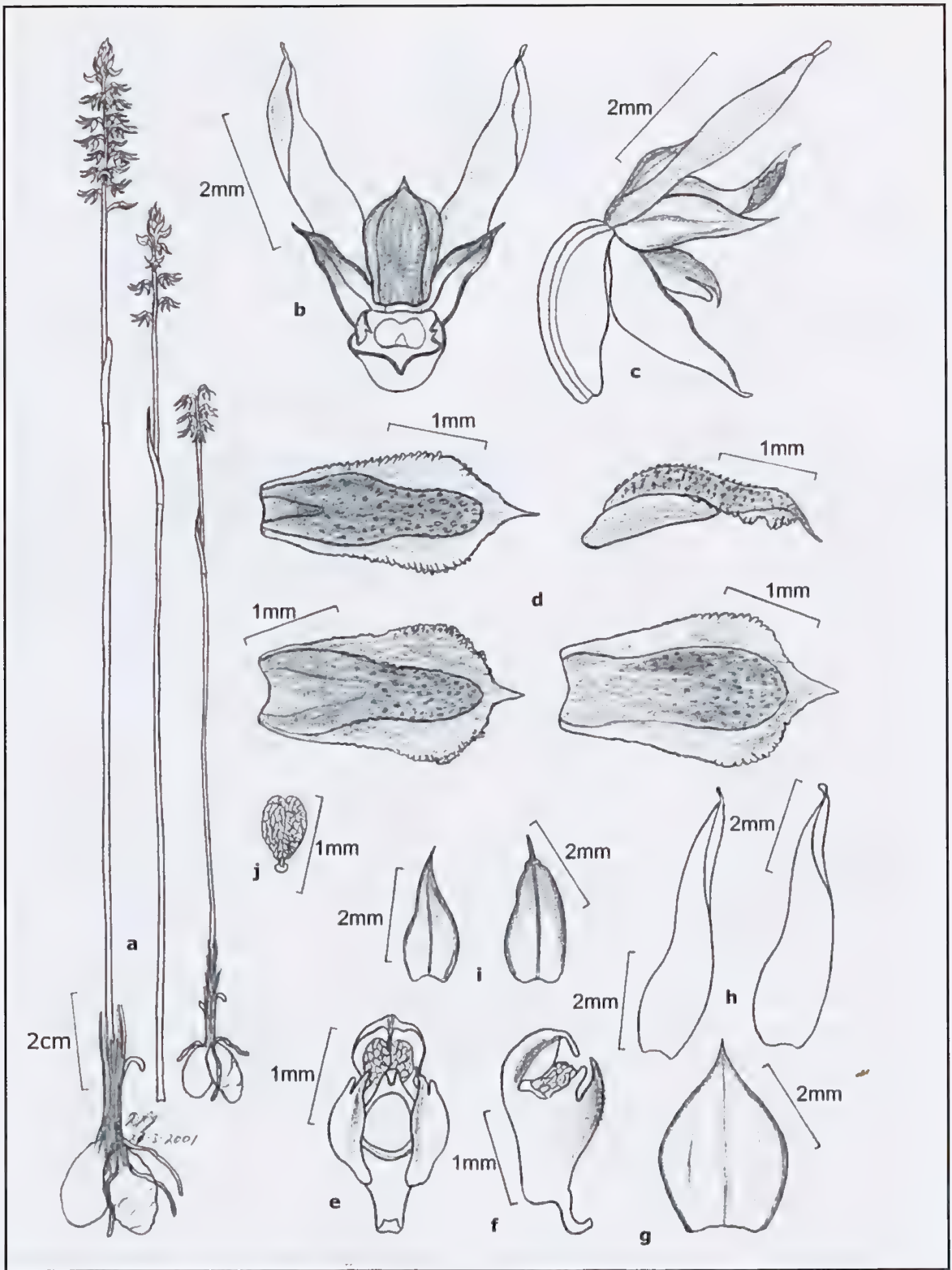
Acknowledgements

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Captions

Fig. 1. *Corunastylis clivicola*, Black Mountain, ACT, D.L.Jones 17861. a. flowering plants; b. flower from front; c. flower from side; d. labella from above, flattened; e. column from front; f. column from side; g. pollinarium; h. dorsal sepal; i. lateral sepals; j. petals.

Drawing 21 Mar. 2001 by D.L.Jones©

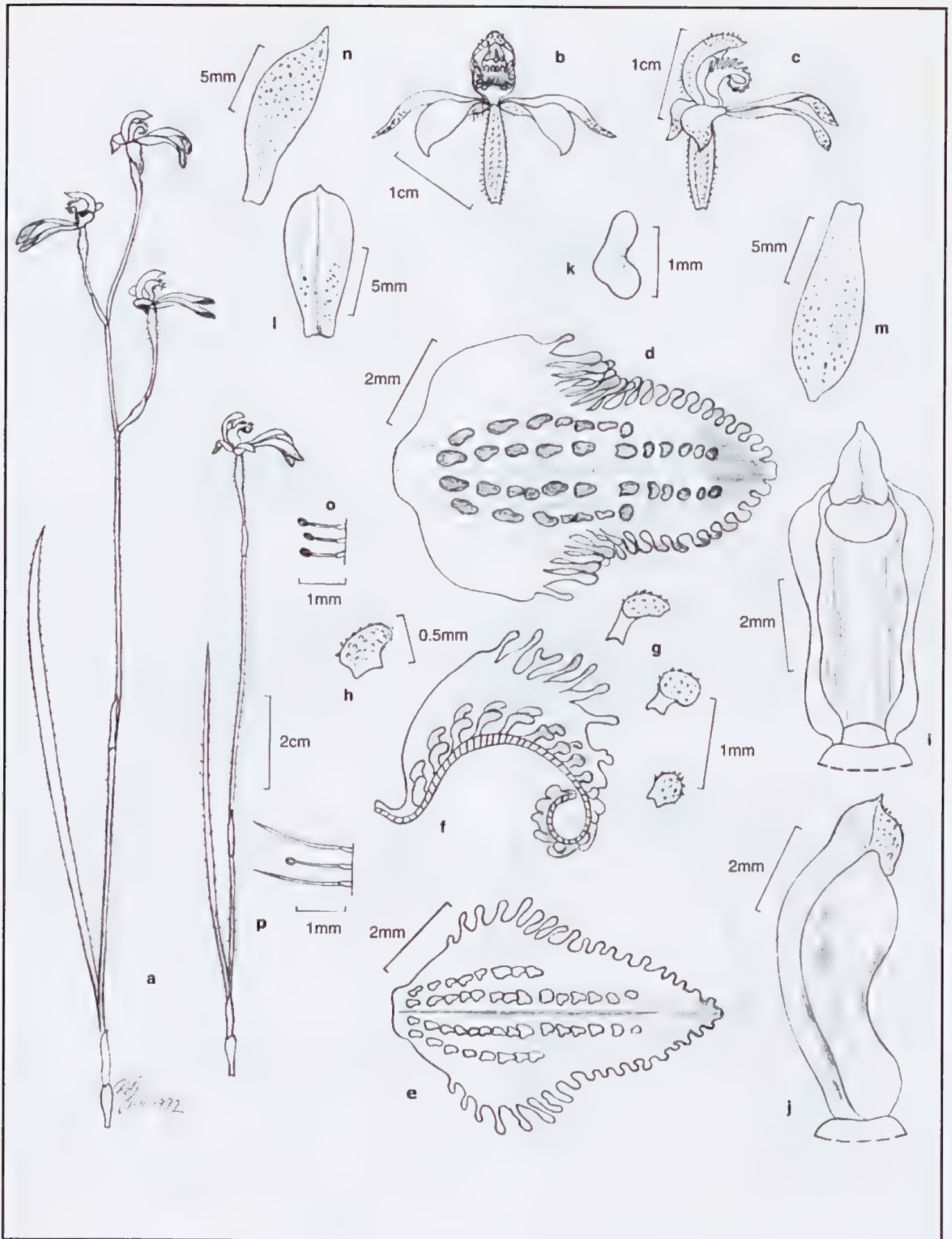


Fig. 2. *Stegostyla ustulata*, Black Mountain, ACT, D.L.Jones 10634. a. flowering plants; b. flower from front; c. flower from side; d. labellum from above, flattened; e. labellum variation; f. longitudinal section of labellum; g. lamina calli; h. basal calli; i. column from front; j. column from side; k. pollinium; l. dorsal sepal; m. lateral sepal; n. petal; o. ovary trichomes; p. scape and leaf trichomes. **Drawing 1 Nov. 1992 by D.L.Jones©**

Whales, dogs, crossbows and orchids.

In a back scratching exercise (please insert adjective of choice at this point, like shabby, sneaky or underhanded) with the New South Wales Shooters Party, the current state government has plans to open up areas of State Forest to hunters. "The Game Council", which shares a great deal of membership similarity with the Shooters Party, is currently negotiating to use the State Forests of NSW as a recreational tool in order to satisfy their desire to kill anything which moves and use the dogs to make things move which might otherwise be reluctant.

Just when Great Britain has curtailed hunting with hounds it appears we must prepare for our forests to be invaded by men with guns, dogs and crossbows for the purposes of recreation, in order to satisfy their basic cave man hunter-gatherer impulses.

The Game Council insists these activities will perform a conservation function but it is not unusual for hunters to introduce feral animals to these areas to improve hunting prospects. To use an extreme situation, just imagine a group of hunters with guns, dogs etc chasing some defenseless animal through our bushland. These people are not concerned about conservation but simply the desire to kill something.

Several things come to mind when considering this proposal and the damage possible to our native orchids and general public safety from large groups of people and dogs concerned only with the hunt. They are not interested in avoiding difficult to see terrestrial orchid species and a question which must be asked, is whether an area considered for hunting will be closed off to the public for the period of the hunt in the same manner roads are closed to permit other activities such as motor vehicle trials, cycling or athletic events.

This proposal will see the Game Council acting as both warden and poacher with hunters regulating other hunters to promote cruelty for fun without consideration of the damage likely to our public forests and our native flora and fauna.

Now, as for whaling and how it fits with orchid conservation. I liken the whales to threatened species orchids but as per usual

whales get the big sympathy vote while orchids and terrestrial species in particular are rarely considered. There are many more whales of numerous species than is the case with some orchids. With several species there are less than 100 individual orchids and I am sure we would not consider removing any or all of any one species on an annual basis for the purposes of either cultivation, or so-called scientific research.

If a native species was considered to be under threat from an impending development and the total number of plants was limited to just a handful such a species could be removed from that location for study purposes. It would then be the subject of a Section 31 license and be removed under this permit to a recognised body. This situation was mentioned recently in a matter in which I have been involved for several years and I was asked for my opinion if this were to occur. I gave my consent with the proviso all other individuals *in situ* were protected as per the EPBC Act. This was given but the two plants in question were not removed as they have not chosen to present flowers for two years due to unsatisfactory seasonal conditions.

However, none of this applies to whales as each summer hundreds are slaughtered in the name of scientific research. While our native species do not enjoy full protection despite legislation designed for that reason, they are at least not at the mercy of our scientific institutions, most of which are government entities in some way. These institutions are generally understaffed by dedicated people, who are unable to be directly involved in the conservation issues with which orchid growers are frequently

confronted. It is also better not to involve them directly as they are of greater service to the orchid community and also the general community by continuing the work in which they are currently involved.

On a regular basis I note matters of conservation in our newspapers and on television and a recent article in the Sydney Morning Herald mentioned Australia's wildlife map of shame. This map showed Australia to be eighth on the world list regarding species in danger of extinction and went on to list numerous species such as a wombat, potoroo, several frogs, several bird and the Wollemi Pine but not one orchid was mentioned. I might mention a check of the CITES list and could not find the Wollemi Pine and in light of the recent auction of the first group of *ex situ* propagated plants one must expect this plant is not actually

under threat despite its high public profile. Someone please tell me I am wrong.

I continually contact the newspapers and television stations but am yet to receive a reply from any of them, which only goes to prove, orchids do not appear to sell either newspapers or are not suitable subjects for television time.

Perhaps if more people wrote or sent e-mails, the profile of our orchid species might be afforded a higher degree of importance. To paraphrase JFK "ask not what orchids can do for you but what you can do for orchids"

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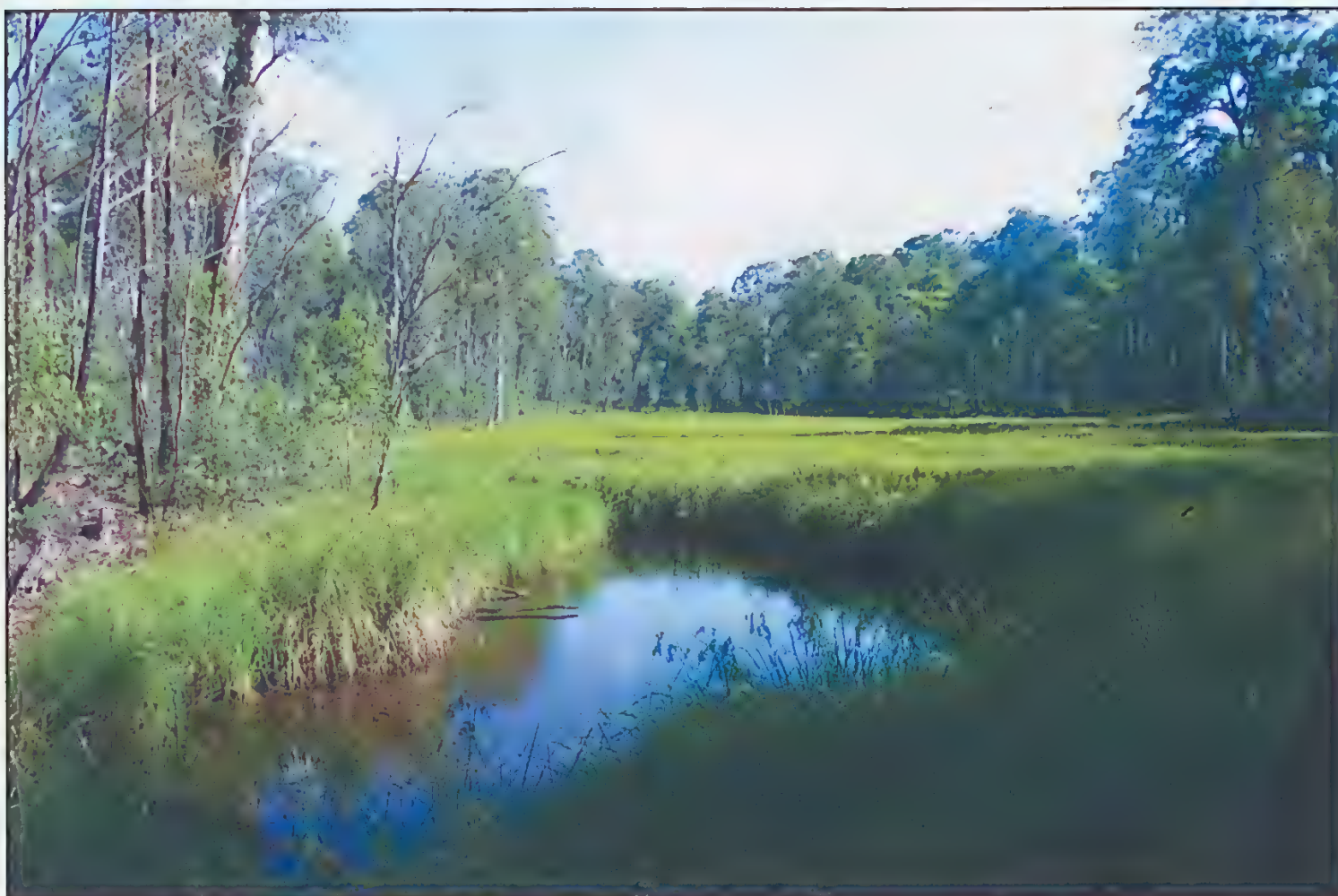


These signs are plentiful over the Barrington Tops region which doesn't fall under the National Parks durastiction. These areas are also used frequently by other campers and bushwalkers which is rather concerning.

STOP PRESS: I have received an email (22.2.07) from Alan notifying us that both the Upper Hunter Council and the Gloucester Council have voted against extensions to mining activites in the Barrington Tops.



The view over Polblue Swamp from the picnic area, an area where mining companies want to explore for Ruby's and Sapphire's.



Horse Swamp, also one of the areas under the possible threat of Ruby and Sapphire mining. This area was only a short walk from where we camped.

Ruby Mining in Barrington Tops - Fact Sheet

Dr Anne Smith

November 2006 Cluff Resources submitted a new development application to Gloucester and Upper Hunter councils to expand their current open cut ruby mine from twelve to sixteen hectares. Both councils have received approximately 150 submissions opposing the proposed expansion and it is likely that a decision will be made at both councils respective February 2007 council meetings. The initial development application for Cluff Resources' small-scale ruby mine by was controversially approved by both councils in October, 2004. The open cut mine and processing plant flanks the headwaters of the Manning River in the Barrington Tops.

Exploratory mining has been going on throughout the Barrington Tops Plateau since 2000 *without public consultation*, including bulk sampling of some 20,000 tonnes of alluvial gravels from 9 locations on the **banks of the Manning River and in areas of Sphagnum Swamp.**⁽¹⁾ Cluff plans to proceed to large scale mining within the next 2 years; *"... a floating dredging operation is under consideration for Stage 2 – Large Scale Mining. To maximise the resource that could be mined this would involve mining across the river, possibly by first diverting the flow through temporary culverts."*⁽²⁾

Cluff has an exploration licence (EL 5336) which covers a large area of Barrington Tops State Forest and Barrington Tops State Conservation Area (SCA), and in May 2006 additional exploration licence (EL 6541) was approved, extending from the Gloucester Tops, along the **Gloucester and Barrington Rivers** down as far as Rocky Crossing at Faulkland, and including Copeland Tops SCA.

In November 2006 Cluff Resources removed Polblue, Horse Swamp and Butchers swamp from their current exploration licence, so it appears that they have bowed to pressure from the community. However, this does not mean that there is no longer any need to have the area changed from State Conservation to National Park status, as there is always a possibility that another company could take out a mining exploration licence in the future. There are also many other endangered wetlands (particularly Boggy Swamp) contained within Cluff Resources' exploration licence on the Barrington Tops plateau, which continue to be at risk from mining activities while they do not have National Park protection.

Where

The Ruby bearing aggregates are known to be located at the head of the drainage lines dissecting the Barrington Tops Plateau, consequently most of the Barrington Tops Plateau

is now subject to exploration licences for rubies and sapphires. ***Mining is permitted in State Conservation and State Forest Areas.*** This means that areas such as Polblue Swamp and other Endangered Wetlands (Butchers Swamp, Horse Swamp and Boggy Swamp), as well as the rivers that are located outside the protection of the National Park, may be subject to future exploration activities such as bulk sampling and full scale mining.

In their most recent exploration licence Cluff advised that they plan to undertake large diameter drilling in the riverbeds of the Barrington and Gloucester Rivers and the creeks in and around Copeland Tops State Conservation Area.⁽³⁾

Who

- Cluff Resources Pacific NL (NSW Gold is a wholly owned subsidiary).
- The current small-scale ruby mine is on land owned by Cairnton Pty Ltd, which is controlled by the Packer group of companies.
- The current mine is conducted under a Private Mining Agreement (PMA), so environmental impacts are primarily a concern for Gloucester and Upper Hunter Councils, under Part 4 of Environmental Planning and Assessment Act 1979.
- *"The project is also the subject of an agreement between Cluff and Consolidated Press Holdings Ltd (CPH), whereby CPH will receive a royalty of 10% of the rubies produced during exploration, CPH also has an option to acquire a controlling interest in the project."*⁽⁴⁾

How

The current mining process involves **digging up the alluvial riverbeds as close as 10 m to the Manning River**, and trucking the gravel to a nearby processing plant (less than 50 m from the Manning River) to sort any rubies from the rest of the gravel. Water is continually pumped from these mining trenches and dispersed 400 m

away from the trench. A tailings dam is used to deposit the water with sand, silt and clay after it has been through the processing plant. Gypsum (plaster) is added to the tailings dam to aid with settlement.

It will be necessary to pump water from the river during drought time to maintain the water level in the dam.

Why

- Creation of profit for Cluff Resources and Consolidated Press Holdings Ltd.
- 6-8 jobs
- Rubies will mainly be sent to Thailand to be cut and then sold in the United States as jewellery. Some are being sold in Australia as **Ellerston Pink Sapphires** by the following Sydney jewellers - Jan Logan, Rox, Giulians, and are also used by designer Collette Dinnigan.

Why Not

- Destruction of the rare Wilderness Environment of the Barrington Tops.
- The location of the ruby resource is also the location of endangered wetlands, streams and rivers.
- **The close proximity of the ruby and sapphire exploration licence activities to wetlands, swamps and rivers is a real threat to the future health of our region's rivers and water supply.**
- The sub-alpine wetlands/swamps have taken thousands of years to form ⁽⁵⁾, and **cannot be regenerated**.
- Tourism in the Gloucester, Dungog and Great Lakes region is promoted through showcasing the Barrington Tops as a Wilderness area. Open cut mining along rivers will affect the pristine image of the region.
- Threat to sustainable economic development in the region from tourism, which is worth 25-30 million dollars per year to the Gloucester community (far more than mining). There are 150 000 visitors to the Barrington Tops per year (NPWS figures) and \$72.2 million per annum is the income generated across all of the Barrington Tops communities. ⁽⁶⁾

Problems with current mine

- Impact on water quality and quantity downstream. In 2006 there were eight incidents where high turbidity levels were recorded in the monitor located in the Manning River downstream from mining activities. The company claimed that all of these events were due to "*Debris fouling the*

turbidity monitor". ⁽⁷⁾

- Risk of dirty water entering the Manning River from the nearby tailings dam in times of extreme weather conditions.
- Destruction of an area of endangered subalpine wetland in Mining Area 4 of the current ruby mine. ⁽⁸⁾

Conservation significance of Barrington Tops

- NSW Scientific Committee have listed the montane peat lands and swamps of the State's highland areas as an Endangered Ecological Community. This refers to all Subalpine Swamps in the Barrington Tops, including those mentioned above.
- Sub-alpine habitats, including streams and wetlands of the Barrington Tops are extremely significant and unique for a number of reasons, including the significant number of endemic plant species, i.e. plants which exist nowhere else in the world. ⁽⁹⁾
- Subalpine swamps soak up and filter runoff from the surrounding woodlands like giant sponges. They slowly release high quality water into the rivers, sustaining a flow in dry periods.
- The source of the ***Manning and Hunter Rivers*** and ten other significant rivers is in these very important subalpine wetlands/swamps in the Barrington Tops.
- Many of the endangered swamps are located on public land in the Barrington Tops State Forest and Conservation Areas, which is also the location of the mineral exploration licences.
- Due to the fragile nature of the wetlands and surrounding flora, even exploratory mining activities such as road and track construction may lead to their destruction. ⁽¹⁰⁾

Additional water issues

- "*Most major river systems in south-eastern Australia originate in the high mountain country and the headwaters of these rivers consist of both alpine and sub-alpine bogs and streams. Hence, the Alpine Bog Community is an integral component of the alpine catchments, the importance of which is recognised by their being declared water supply catchment areas under State and Territory legislation*". ⁽¹¹⁾
- The twelve rivers that descend from the Barrington Tops, supply water to the

Manning, Great Lakes, Port Stephens, Hunter and Central Coast Regions, a population of approx 1 million people.

- A \$30million pipeline linking the Hunter's water supply with the Central Coast was completed in December 2005. The water is pumped from the Williams River, one of the rivers beginning on the Barrington Tops. ⁽¹²⁾

What can be done?

Save Barrington Tops Group was formed to deal with the issues discussed above by :

- 1) Lobbying to change Barrington Tops State Conservation and State Forest Areas to National Park status to protect endangered wetlands from all mining activities.
- 2) Preventing expansion of Cluff Resources' current small scale mine to large-scale mining.
- 3) Stopping all mining activities in wetlands/swamps and rivers.
- 4) Monitoring the consent conditions of Cluff Resources' small scale mine.
- 5) Monitoring all exploration licences in the Barrington Tops.

What can you do?

- JOIN OUR MAILING LIST or for further information email savebarringtontops@bigpond.com or contact Ann Smith on 02 6558 4353.
- Boycott all companies selling or using Ellerston Pink Sapphires.
- Sign the petition to convert the State Conservation and State Forest Areas in the Barrington Tops to National Park status. Copies of the petition can be obtained by email or sent via post. Completed petitions should be returned to PO Box 134, Gloucester, NSW, 2422. (Final date for receipt of completed petitions is 01 Mar, 2007).
- Write to The Hon Ian Macdonald MLC, Minister for Natural Resources, Minister for Primary Industries, Minister for Mineral Resources; The Hon Bob Debus MP, Minister for the Environment; and The Hon Michael Costa MLC, Minister for the Hunter, asking them to support the above requests.
- Tell all your friends, ask them to sign the petition and tell their friends.

Links

For information and maps on the current titles access TASMAR on the DPI Web site at <http://www.minerals.nsw.gov.au/tasmmap/> or contact Bob Harrison AMTS Pty Limited Mining Agents & Exploration Consultants 48 Sorrento Road, Empire Bay NSW 2257 Tel: (02) 4363 1686 Fax: (02) 4363 1687

Nature Conservation Council of NSW
www.nccnsw.org.au

National Parks Association of NSW
www.npansw.org.au

Environmental Defender's Office
www.edo.org.au

References

- (1) Gloucester Rubies Project Small Scale Mining Environmental Impact Statement Volume 1 2000-2003 Exploration Overview Figure 2.1.
- (2) Cluff Resources Gloucester Rubies Project EIS Volume 1 Pg 29.
- (3) Email from Director of Cluff Resources Peter Kennewell to Gloucester Environment Group 7 March, 2006
- (4) Cluff Resources Gloucester Rubies Project EIS Volume 1 Pg 9.
- (5) Nanson, R. A. (2005) Stream channel adjustment in upland swamps, Barrington Tops, NSW Australia Phd thesis. School of Physical Environmental & Mathematical Sciences University of NSW.
- (6) Gloucester Advocate 2 August, 2006.
- (7) Surface & Groundwater Monitoring Report Gloucester Rubies Project, Barrington Tops, 31 July 2006.
- (8) Cluff Resources EIS Supplementary Information Gloucester Rubies Project June 2004 page 3.2.
- (9) Conservation Significance of Barrington Tops compiled by Anne Heinrich, author of "A Field Guide to Sub-alpine Flora of Barrington Tops New South Wales".
- (10) NSW Scientific Committee Final Determination for Montane Peatlands and Swamps as an Endangered Ecological Community (Determination Advice 04/24), 17 December, 2004.
- (11) Draft nomination of the Alpine Bog Community submitted to Environment Australia, June 1999. Author Obscured.
- (12) Newcastle Herald Saturday July 8, 2006.

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The picturesque view of the Barrington Tops National Park, from Thunderbolts Lookout. This is a world listed Heritage Area.

Photo Graeme Bradburn



This isn't working Graeme and stop laughing at me.



Don't worry this will work! Thankfully it did.

Photos Anne-Maree Mitford.

Back to the Barrington Tops.

Peter Eygelshoven
peygelshoven@optusnet.com.au

The Barrington Tops has long been an area where native orchid enthusiasts visit to see orchids unique to this area and found in very few other areas. There have been many articles written even within the pages of *The Orchadian* of orchids found in the many habitats that create the Barrington Tops. I confess that I should have researched a lot more than I have to write this article, but I write it not so much for the orchids but for the concern and possible threat looming over this region. If you have read the previous articles in this issue you will understand my concern, which is shared by many others. I have visited the area several times over the past twenty years and enjoy the drive from Gloucester to the top as you drive through some temperate rainforest, Beech Forest and sub-alpine woodlands.

Graeme Bradburn, Anne-Maree Mitford and myself ventured up to the Barrington Tops over the 2007 Australia Day holiday weekend firstly to meet up with locals concerned with the mining threat and secondly to enjoy a long weekend away from the city. However due to some car trouble we missed our meeting.

Driving along the Barrington Tops Forest Road you realise that parts are National Park, parts are State Forest and parts are State Forest Conservation Parks, basically anything on the south side of the road is National Park, except for Polblue Swamp, and anything on the north side is either State Forest or State Forest Conservation Park. I am not sure what the difference is between the later two, but I will have to find out as it bothers me. Mining, and other activities, are allowed in the later two and this is of great concern as it's the swamps of the Barrington Tops that hold orchids unique to not only this habitat but this area as well. Much of the Beech Forests is National Park and Wilderness area, and is indeed World Heritage Listed, but many of the swamps of the sub-alpine woodlands that feed constant water to the rivers and creeks that flow through the Wilderness area is where the problem lies. It's these swamps that mining companies may wish to mine for rubies and sapphires. While they are not National Park the threat will always be there!

A group know as 'Save The Barrington Tops Group' headed by Dr Anne Smith are lobbying

to have much more of the Tops made into National Park protecting the swamps and other habitats from the threat of mining. There are contact details and websites in the fact sheet for more information and details on how to help.

Our plan was to meet on Friday morning at Horse Swamp camp site. Graeme and Anne-Marree went up on Thursday night and drove through the thick fog which frequents the Tops most evenings and therefore were unaware of the signs informing people of the areas being used for conservation hunting of feral animals. I was slightly concerned as we intended to walk and camp in these areas.

We did meet on time and at the designated area and after I pitched my tent had a cup of coffee we spoke about where we wanted to walk, even after I mentioned about the signs we still set off down the tracks. Horse Swamp, I guess is on the western side of the Barrington Tops. In our immediate camp area we found in flower, *Eriochilus cucullatus* and *Dipodium atropurpureum* and *Corunastylis nuda* (*Genoplesium nudum*), almost the only ones of these species we saw all weekend. We soon realised that the sub-alpine woodlands were very dry, even the heavy rain two days earlier had little effect on dampening the ground. The long period of drought has left many of the mosses both on the ground and in the trees very dry not even responding to the foggy nights or rain. Orchids seemed few and far between, basically only finding a cauline *Dipodium*

species in bud. After having lunch back at the camp site we walked to Horse Swamp and through the swamp itself, where in the past you would have sunk ankle deep in water and bogs, only finding some poor specimens of *Microtis* species. In the major part of the swamp where the sphagnum bogs 'use to be' and where Graeme had seen hundreds of *Pterostylis falcata* flowering a few seasons earlier, there was nothing.

As evening set in and Graeme cooked the dinner, we heard in the distance what could only have been gun shots, these going late into the evening. Either there were plenty of feral animals in the area or the hunters were lousy at shooting. I thought about Alan's article on 'Whales, dogs, crossbows and orchids' and thought he may well be right. We were lucky in that we had the camp site to ourselves, however there were many four-wheel drives that drove in and around the campsite only to leave again, some with dogs which were not allowed in this area, some had those large lights for hunting at night. The moon was almost full and shone brightly in the night as did the stars, I had forgotten how bright they could be and how many more were visible than in the city's night sky. However, needing to get up during the night, the red wine accompanying the dinner being plentiful, I soon saw that the sky sparkled with many more brighter stars, simply because the moon had set behind the hills.

We woke on Saturday morning to another warm day with clear blue skies, and after breakfast walked to Butchers Swamp via a fire trail. We found many leaves of *Simpliglottis* species (large flowered *Chiloglottis*), with the occasional plant carrying a seed pod. Several *Microtis* species were also found in flower. Once at Butchers Swamp we made our way along a creek where we came across several plants of *Pterostylis falcata* with distorted flowers. The creek was barely flowing. Upstream we came across a large sphagnum bog which was still very green and many leaves of *Simpliglottis* were seen growing in the sphagnum. Occasionally, we found withered plants of *Thelymitra* species.

The day was getting very warm and we decided to go back to camp for lunch and a cold beer.

In the afternoon we drove back up to the main road and walked through the grasslands on the south side of the Barrington Tops Road which I think is National Park. Here we soon found a few plants in flower of *Diplodium abruptum*, (*Pterostylis abrupta*) again only a few due to the dry. We stopped once or twice more along the way till we reached Polblue Swamp. A quick walk from the camping area to the swamp found a few small, late flowering *Diuris venosa*, one withered plant of *Diuris abbreviata* and a couple of *Eriochilus cucullata*. We ventured to the small bridge that crosses the swamp and commented on how low the water level was in the creek.

Returning to the camp site Graeme prepared us a three course Asian style cuisine for dinner while Anne-Maree and I indulged in some wine. Sunday's plans were discussed and as long as we were at Polblue by the meeting time we would have time to stop at one or two places on the way back.

After packing up camp on Sunday morning it was time to leave. But, my van would not start and the car troubles started. (The pictures tell the story). This made us late for the meeting so it was decided to head home. We did stop at an area to find plenty of *Diplodium coccinum* (*Pterostylis coccinea*) in flower. We felt that this was due to this side of the Barrington Tops, the eastern side, receiving a little more rainfall than the western side where we camped. Another stop at Thunderbolts Lookout where we found *Diplodium abruptum* in flower and saw the spectacular view over the wilderness area of the Barrington Tops National Park. On the return journey down to Gloucester we saw many signs demonstrating against the mining in the area.

A wonderful weekend away, even if we missed the meeting.

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Cymbidium canaliculatum flowering in Roger Herraman's bushhouse 4th November, 2006.
Photos Roger Herraman