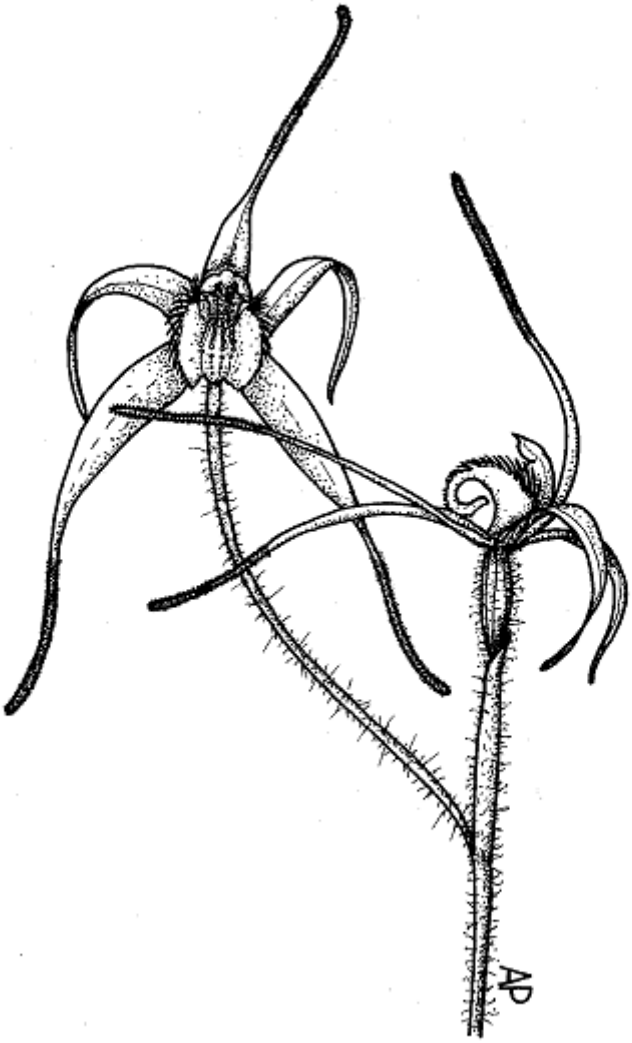
NATIVE ORCHID SOCIETY

of

SOUTH AUSTRALIA



Caladenia rigida

NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA

JOURNAL

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PATRON: Mr T.R.N. Lothian

NEXT MEETING

WHEN: Tuesday, 22nd February, 1983 at 8.00 p.m.

WHERE: St. Matthews Hall, Bridge Street, Kensington.

There will not be a meeting during December and January.

A MERRY CHRISTMAS AND

A HAPPY NEW YEAR

TO ALL

FROM YOUR COMMITTEE

HELP

We urgently require the services of a typist to prepare the stencils for our Journal. If you feel you can help, please contact the Secretary or the Editor, G.J. Nieuwenhoven on 264 5825.

THANKS

A big thank you is due to our typist for the last two years, Mrs. Bev Baker, who has without fail and with a great deal of skill done a marvellous job, making the task of Editor much easier. Regrettably she is unable to carry on next year, and we would like to extend our appreciation for what she has done for us. Thank you Bev.

FIELD TRIPS

Do you know of any good locations where orchids may be found? If you do, our Field Trip Organizers would like to hear from you. We are trying to avoid going over old ground so to speak, and would like to investigate new areas if we can. This makes it more interesting for everyone involved and also helps to update distribution data. Contact Bob Markwick or Bob Bates please.

LAST MEETING

Last meeting we enjoyed a few slides from various members including some taken during the last Australian Orchid Conference. One notable shot was of *Den. discolor* growing like a hedge on Daydream Island, Queensland, right on the foreshore, receiving salt spray and apparently thriving.

Supper was enjoyed afterwards, with much discussion going on about Orchids, something we don't always have an opportunity for after normal meetings.

Plant Display

Terrestrials:

Cryptostylis erecta
Cryptostylis subulata - 2
Cryptostylis leptochila
Microtis species
Spiranthes sinensis - 2
Diuris punctata var. parvipetala
Diuris emarginata
Caladenia dilatata (swamp form)
Pterostylis decurva
Pterostylis biseta
Diuris brevifolia - raffle prize

Epiphytes:

Cymbidium canaliculatum
Cymbidium suave - 2
Dendrobium wassellii
Dendrobium antennatum
Dendrobium cucumerinum
Dendrobium discolor
Dendrobium canaliculatum
Dendrobium bigibbum
Dendrobium gouldii X lineale var. kui blue
Dendrobium antennatum x discolor (D. verninha)
Rhinerrhyza divitiflora
Sarcochilus falcatus

Commentary:

Epiphytes – P. Barnes

Terrestrials – A. Clements

ORCHID FOUNDATION ANNOUNCEMENT

The Orchidaceae of German New Guinea - Rudolph Schlechter

After more than four years of painstaking and thorough work by the Editorial Committee of the Foundation on the English translation of Schlechter's work, I am pleased to advise that this mammoth task has now been completed and the printing of the finished volume is scheduled to be completed prior to 31 December 1982.

The Directors of the Foundation have established a selling price of $150.00 which includes surface postage for this basic form of Botanical literature.

We thank you for your enquiry and are pleased to make a special offer to you of 2O% discount if payment is received prior to 31 December, 1982.

CORYBAS SALISBURY J.T. SIMMONS

Bob Markwick's article in the October Journal on the growing habit of some species of *Corybas* brings to mind the controversy which occurred between a number of the great 19th century botanists on whether the genus name should be *Corybas* Salisbury or, *Corysanthes* R. Brown.

The dispute continued for nearly a century and was not resolved in favour of *Corybas* until 1923 when Rudolf Schlechter published a paper on the subject and transferred all the existing species of *Corysanthes* known to him, into *Corybas*.

At this time he named fifty-two species which occurred from the Himalayas where *Corybas himalaicus* (King et Pantl.) Schltr. is the north and west sentinel of the genus, through the Malay Peninsula and Sunda Islands, the Philippines, Celebes and Moluccas down through Papuasia to the Pacific Islands, Australia and New Zealand.

In his paper Schlechter said

"If I reopen this old controversy, (which was first started by R. Brown, decided in favour of the latter by Lindley and Bentham and in favour of Salisbury by Reichenbach f.),it is only because lately Oakes Ames has given his support to *Corybas*. Unfortunately neither of the two names appears in the 'Index' of established genera, a work evidently compiled very hurriedly and therefore with numerous omissions and one if not soon revised, will necessitate the renaming of thousands of species.

Corybas was established in 1807 by Salisbury in 'Paradisus Londinensis' on plate 83. Three years later Robert Brown published his genus *Corysanthes* which is undoubtedly identical with *Corybas*. In his "Revisio Generum 11, p. 656", O. Kuntze states that according to R. Brown in Prodr. p. 328, a literary theft was committed by Salisbury, but this statement has never and perhaps will never be proved. Reichenbach f. reinstated the name *Corybas* in his re-arrangement of R. Brown's Herbarium. Later authors again dropped it, In 1891 O. Kuntze insisted on the re-establishment of *Corybas* in his "Revisio Generum" and likewise gave his reasons which should be remembered.

In spite of all this *Corysanthes* continued to be used by most authors, including Pfitzer in his work on orchids in the 'Pflanzenfamilien',

Recently Oakes Ames again draws attention to *Corybas* and in order to avoid the creation of further new names, it would appear highly desirable that orchidologists should come to an understanding regarding the use of one or another of these names.

After consideration of all the known facts in the history of the genus and discussion thereon with different authorities in the department of nomenclature, it seems absolutely necessary that the name *Corybas* be accepted.

Whether Brown's charges against Salisbury for his earlier description of the genus are justified or not, is a matter of indifference to Us, but the fact that *Corybas* was published four (?) years before *Corysanthes* and was accepted during that period as a valid genus, cannot be a matter of indifference. Accordingly, we shall have to accept the name Corybas and reject *Corysanthes*. Another point in favour of this is, that it will obviate any future confusion with *Coryanthes*, another orchid genus belonging to a different relationship.

Corybas Salisb., according to present knowledge of the genus, contains fifty-two species, which, beginning in the Himalayas, are distributed eastwards across Hinter-India, the Malayan Archipelago, Papuasia to Tahiti. Southwards this distribution area extends to South Australia and New Zealand, while in the north it reaches the borders of the Philippines.

I have already supplied a classification of the Papuan species in my Orchidaceae of German New Guinea (1914) The remaining species, however, still require to be re-arranged and this can only be done after a monographic investigation of the entire genus.

Pfitzer placed the genus in his Group *Neottiinae-Pogonieae*, but such a position did not meet with my approval. In my division of the *Polychondreae*, I formed the opinion that it would be better arranged with the *Acianthinae* (now *Aciantheae*).

From all these however, it differs in the large labellum (with two short basal spurs) which embrace a very short column so that it seems desirable to make it the Type of a separate Group a for which I would propose the designation *Corybaseae*.

The second part of this paper enumerates the fifty-two species known to Schlechter together with their synonyms.

Since publication the known species have increased to about seventy and include *Corybas taiwanensis* Lin. from Taiwan in the north and that remarkable recent discovery that *C. macranthus* (J.D. Hook.) H.G. Reichb., formerly thought endemic to New Zealand, was growing on Macquarie Island.

Currently, twelve species are recorded for Australia and eight for New Zealand, five of the latter being endemic, the other three being found in both countries.

References:

Schlechter R. (1923) Corybas or Corysanthes Fedde Repert. XIX (1923) pp. 18-24.

Cooper D. (1981) New Zealand Native Orchids - A field guide - Wellington - Price Milburn

Clements M.A. (1982) Australian Orchidaceae - a preliminary checklist - Canberra - National Botanic Gardens.

The following article is reprinted from the New Zealand Native Orchid Group Bulletin.

NOTES ON THE STRUCTURE AND DEVELOPMENT OF THE TERRESTRIAL ORCHIDS E.D. Hatch

In New Zealand the terrestrial orchid is a typical monocotyledon. It consists of a creeping, branching rhizome with alternating nodes and internodes. Each node bears buds for lead, leaf and branch, and the relative development of these buds depends on their position on the plant. Below the surface leaf-buds form scale-bracts and branches develop freely. Above the surface green leaves are usual and branches less frequent. In those species which lack chlorophyll, the leaves, not being required for food production, retain their underground scale-bract dimensions. The buds are borne only on the nodes and it follows that any bud-bearing structure must be, or include, a node. The round tuber in *Pterostylis, Corybas, Acianthus* etc., is therefore an enlarged terminal node, adapted for food storage, dormancy and regrowth, while the so-called 'root' which precedes it is a single elongated internode. Not all these branch internodes bear tubers. Some remain slender, have numerous root hairs and appear to function only as feeders. In *Pterostylis* those species which have a bracteate-leaved mature form (I have experimented with *alobula, alveata, brumalis* and *coccinea*) will throw rosettes of juvenile leaves from the nodes of the flower stem in the event of damage to the plant. Usually the lower nodes but sometimes halfway up the stem, and these branch rosettes will in turn produce their own descending, tuber-forming internodes. Working with *P. oliveri* I discovered that if a flower stem comes into contact with the soil it will throw tuber-bearing branches from the nodes (i.e. from the axils of the leaves).

The elongated tuber in *Thelymitra, Orthoceras* and *Calochilus* and in *Spiranthes* also, is an initial node combined with a partly enlarged, following internode. In *Gastrodia* the whole rhizome is enlarged, nodes and internodes together. Scale leaves and scars of scale leaves point the position of the nodes.

The function of the tuber is to tide the plant over the dry season and in those species which form several tubers, to provide a means of vegetable increase. In mountain species the dormant period is extended to cover the cold season as well. In species which live under relatively damp conditions throughout the year. (*Adenochilus, Yoania*) there is a tendency for the rhizome to be perennial and no tubers are formed. *Corybas cryptanthus* which is normally rhizomatous, will form tubers under adverse conditions, while *Acianthus viridis* and *Corybas aconitiflorus* sport both semi-perennial rhizomes and regularly-formed tubers. Some swamp species are also perennial.

Thelymitra pulchella, which sometimes grows in water, will often throw a new leaf alongside the still-green old one and the same occurs with *Spiranthes*. In *Spiranthes* also, if the plant is too small to flower, it will go on growing and not die back until it has flowered at the end of the second season. Until, that is, it has built up sufficiently large tubers with enough store of food to flower on. *Spiranthes* can do this because of the swamp environment; 'dry' species are often forced to spend several seasons building up the tubers to flowering size. *Spiranthes* sometimes dies down at the end of the second season without flowering.

In species which have different leaf-forms at different stages in their growth, for example the *trullifolia* complex in *Pterostylis*, the growth stage depends entirely on the size of the tuber, that is on the amount of nourishment available. In *P. alobula* tubers up to 3mm diameter will produce only rosettes, 4-5mm the intermediate flowering form with both types of leaves, while anything above 7mm will produce the mature flowering form with bracteate leaves only. Similarly in *P. coccinea* the rubicon is 12mm. Anything below that will produce a rosette, anything above it a flowering plant. The rosette from which the small plants assume, provides a maximum area of green leaf, for photosynthesis and results in the rapid formation of flowering-sized tubers. This variation in form does not affect species with basal rosettes (*P. nutans, curta*, etc.) since maximum leaf development is always present. If the mycorrhizome of *P. brumalis* chances to develop in a congenial spot it will throw some tubers large enough to flower the following season, 2 years from seed to seed. But this is rare - the tubers are normally smaller and develop rosettes. I have done this experimentally and have also grown *Spiranthes* from seed and produced flowering plants in three years.

The form the plant takes depends upon the development of the leaves and the length of the internodes. Large leaves and short internodes produce conspicuous rosettes like those of *P. curta* or *nutans*; large leaves and long internodes forms like P. banksii. Scale leaves and long internodes give plants like *Gastrodia* and *Yoania*, while tubular leaves and long internodes give *Prasophyllum* and *Microtis*. The tall seeding peduncle of *Corybas* and *Chiloglottis* is a single internode. The structure is simple but the possibilities are endless, and so the Orchidaceae has proved.

DIURIS BREVIFOLIA X D. SULPHUREA

R. Bates

I made this hybrid in November 1979, at that time unaware that Ray Nash had already made the cross.

As *D. brevifolia* R. Rogers is a very disease resistant, rapidly increasing and floriferous plant, my intention was to add these characteristics to the larger flower size of the very similar *D. sulphurea* R.Br.

Seed was sown in May 1980 around plants of *D. brevifolia* in a 30cm diameter clay pot. Seedlings appeared in September, and were pricked out into a separate pot and kept moist until December. In 1981 one plant grew more vigorously than the others and this was potted separately in December into a mix of bush soil, washed sand and peat. The plant flowered in October 1982 at 2½ years of age. The flowering spike was a sturdy 40cm tall and with all eight flowers out together was quite spectacular. The buttercup yellow flowers ware intermediate

between those of the two parents with two deep brown spots on the dorsal sepal. The plant was larger and sturdier than *D. brevifolia* and more disease resistant than *D. sulphurea*.

Unfortunately when I made the cross the only clone of D. sulphurea available was an inferior one from near Melbourne. Since then I have obtained others from New South Wales, Queensland and South Australia. The most attractive of these is the Mount Gambier, South Australia form which is very floriferous with long lasting blooms. I have remade the *D. sulphurea x D. brevifolia* using this as I believe that hybrids should only be made from superior clones. I will admit that I prefer the flowers of *D. sulphurea* (good clone) and *D. brevifolia* to those of the hybrid at this stage, but I will keep the hybrid until l get a better one!

FIELD TRIP TO KERSBROOK/MOUNT CRAWFORD AREA – 23.10.82 R.J. Markwick

The afternoon of 23rd October, 1982 saw a healthy turnout of N.O.S.S.A. members gather in the small hills town of Kersbrook for a field trip into nearby scrubland and forest areas. We were especially pleased to welcome several members who had come along for the first time. Although the prevailing drought conditions were known to have affected the flowering performance of some species, we set off in absolutely perfect weather(23.7°C in Adelaide) to see what we could find.

Our first stop (1) was at a patch of road-side scrub approximately 6km north of Kersbrook on the Williamstown road. Last year, *Thelymitra mucida* and a putative hybrid *T. mucida x nuda* were recorded at this location, but this year neither of these plants were to be seen. This area has a history of disturbance due to road building activity. It has been noted that hybrids seem to appear more frequently in areas of disturbed ground, and the discovery this year of another apparent hybrid, with *T. nuda* and *T. pauciflora* as the supposed parents, provided us with further evidence to support this observation. While the perfume of *T. nuda* was easily detectable, the flowers of this plant were unscented like *T. pauciflora*.

Flowers of *T. nuda, Glossodia major* and *Caladenia dilatata* were relatively abundant, while flowers of *Caladenia leptochila, Microtis unifolia* and *T. pauciflora* were of scattered occurrence. Interestingly, while a number of *T. pauciflora* were still in bud some were displaying swollen ovaries, having apparently self-pollinated without opening because temperatures had not reached the level of warmth required for this to happen. *Thelymitra rubra* was present as withered flowers on swollen ovaries, seed pods of *Pterostylis nana* were noted, and basal leaves of *Pterostylis pedunculata* and a *Corybas* sp. were recorded.

Warren Conservation Park (2) was our next stop. Here, several flowers of *Caladenia patersonii* were still, surviving in good condition, while most had withered after their lengthy flowering period which began in early September. Other flowers seen here and not recorded at the previous stop included *Caladenia reticulata, C. catenata, Calochilus robertsonii, T. rubra* and a specimen of *Pterostylis biseta* which had flowered early. Many of these taxa were new to our English member George Mitchener, who, during his extended stay in Australia this year has joined us on a number of excursions. On this occasion he was able to see a greater variety of plants than on any of the other trips, including the September visit to Ararat and the Grampians (Victoria).

The only other new species recorded at Warren Conservation Park were *Thelymitra ixioides* in bud, and *Diuris maculata*, in seed.

About 3km further along Watts Gully-Road, a short walk along a fire track from the Lone Pine Picnic Ground (3) turned up a single flower of *Pterostylis nutans* among many fat seed pods, several very fine specimens of stately *Thelymitra aristata* which were subjected to much attention by the shutter-bugs, withered but still recognizable flowers of *Pt. plumosa*, and *Pt. vittata* in seed. By this time the shadows were growing longer and some chose to call it a day. A few, undeterred by lengthening shadows pressed on (in what was perhaps the nicest time of the day) to an area of native forest near Mount Crawford (4).

This location had several surprises in store. There, in disturbed ground along the roadside were dozens of fine *C. leptochila*, many bearing two flowers, some being of a very pale colour form, others displaying labeller much broader than is usual for the species. This was a remarkable and most unusual sighting, possibly the result of wind-blown seed originally dispersing from a single plant into an unusually receptive environment under optimum conditions.

Further surprises came with the discovery of a dozen or so yellowish - green flowering plants of the uncommon *Prasophyllum pallidum*, and extraordinarily (for so late in its flowering season), buds of *Thelymitra antennifera* nestling in a swampy depression. *T. antennifera* was also found flowering, as was *Caladenia catenata* var. *minor, T. ixioides* and *Diuris longifolia*. Seed pods of *Diuris pedunculata* rounded off the tally of plants not seen elsewhere during the afternoon.

All in all, given the poor season, our final tally of plants, far exceeded expectations, and the perfect spring weather experienced on the day provided us with ideal conditions for exploring the botanically interesting bushlands of Warren Conservation Park and the Mount Crawford State Forest. In summary, a very pleasant Saturday afternoon was enjoyed by all who attended.

Orchids Seen: (Locations indicated by number in parentheses)

In Flower

Caladenia catenata (2)
C. catenata var. minor (4)
C. dilatata (1) (2) (3) (4)
C. leptochila (1) (4)
C. patersonii (2)
C. reticulata (2)
Calochilus robertsonii (2) (4)
Diuris longifolia (4)
Glossodia major (1) (2) (3) (4)
Microtis unifolia (1) (4)
Prasophyllum pallidum (4)
Pterostylis biseta (2)
Pt. nutans (3)
Thelymitra antennifera (4)
T. aristata (3)
T. ixioides (4)
T. nuda (1)
T. nuda x pauciflora (1)
T. pauciflora, not open (1)
T. rubra (2) (3)

In Bud

Pterostylis biseta (2)
Thelymitra antennifera (4)
T. ixioides (2)
T. pauciflora (1) (4)
T. nuda (2)

Past Flowering

Caladenia patersonii (2)
Corybas sp. (1) (2)
Diuris maculata (2) (4)
D. pedunculata (4)
Pterostylis nana (1)
Pt. nutans (3)
Pt. pedunculata (1) (2)
Pt. plumosa (3)
Pt. vittata (3)
Thelymitra pauciflora (1) (2) (3)
T. rubra (1) (4)

Locations: (1) Roadside scrub (2) Warren Conservation Park
(3) Lone Pine Picnic Ground (4) Mount Crawford

SOME UNUSUAL SUN ORCHIDS (*THELYMITRA*) HYBRIDS R. Bates

On October 24th this year I surveyed the area between Peter Creek and Kuitpo in the Adelaide Hills for orchids. The weather was fine and sunny, the temperature about 28°C - ideal flowering conditions for sun orchids.

At the first stop were numerous *Thelymitra ixioides* the blue spotted sun orchid. Most specimens were unusual here in that they lacked the usual spots, the flowers being a clear sky blue (1). As there were several forms of *T. pauciflora* including white ones growing at the same location I was not surprised to find a number of *T. x juncifolia* (2) and as expected, these also had blue flowers without the usual spots. One plant had flowers of a very pale blue indicating that its pollen parent (3) had been a white *T. pauciflora*. There were also a number of *T. rubra* in flower but careful searching failed to reveal any plants of the pink spotted hybrid between *T. rubra* and *T. ixioides*, namely *T. irregularis*.

In a nearby paddock now heavily grazed by cattle were many *T. antennifera* of brightest yellow. My goal was to locate several clumps of the hybrid *T. antennifera x T. rubra* known to occur in this paddock and remove them to a local reserve. Some of the hybrids found had brilliant pink flowers, others were crimson inside and yellow outside, others were streaked red and yellow.

Also located in this area were plants of *T. pauciflora* with blue instead of yellow columns and surprisingly a hybrid between them and T. ixioides which also had a predominantly blue column.

Two kilometres further on I noticed splashes of yellow in another cattle paddock. These were again *T. antennifera* and despite the dry conditions several had produced four flowers, perhaps as a result of the fertilizer the cows had supplied.

On returning to the car I noticed a much taller yellow sun orchid on the roadside. This had a pink column with two yellow papillose appendages most unlike the dark brown 'rabbit ear' appendages of *T. antennifera* and I 'guessed' that it was another *T. antennifera x T. rubra* hybrid which had inherited its colour from its pod parent. Not surprisingly I used up a complete roll of film photographing sun orchids that afternoon.

(1) Although the flowers of *T. ixioides* (the name means spotted like an ixia) typically have numerous dark blue spots, unspotted forms have been reported before.

(2) The name *T. x juncifolia* is the accepted name in Clement's (1982) Preliminary Checklist of Australian Orchids for the plants previously known in South Australia as *T. truncata, T. ixioides* var*. truncata and T. x decora.*

(3) The so called 'pollen parent' is the plant which provides the pollen in making a hybrid. As *T. pauciflora* is commonly self pollinated while in bud it is seldom the 'pod parent' or the plant providing the hybrid seed.

CRYPTOSTYLIS OVATA - SLIPPER ORCHID. G.J. Nieuwenhoven

During our Australian summer period not many terrestrial orchids are in active growth or flower for that matter. *Cryptostylis ovata* is one of the notable exceptions.

It is a moisture loving species from Western Australia, where it is endemic. It resembles its near relative *Cryptostylis subulata* very closely, and to the uninitiated could easily pass for it. However, upon examination of the flower it will be seen that the labellum is patterned with a network of veins, a feature lacking in *C. subulata*, the callus plates are less prominent, and are coloured differently, with the surface being finely pubescent.

When not in flower and comparison is made with *C. subulata*, it is obvious that the leaves are much larger and broader and according to W.H. Nicholls, is strongly ribbed and has an irregular white line running its length. This has not been noted yet in my plant, possibly because it is still fairly immature.

C. ovata grows quite well in cultivation and is happy in a crumbly loamy soil. Like most members of its family, it likes a pot that is not too small, as root growth can be vigorous - my plant is growing in a 175mm (7 inch) squat pot. When its contents were examined recently it was found that the thick white roots had already reached the sides and were curving around the inside, while above ground it only has three leaves approximately 75 - 100mm tall.

Cryptostylis ovata

Watering is left to nature during winter but while in growth the pot is stood in a shallow container of water - this also prevents the plant from dehydrating during our hot summer. Although the network of spaghetti like roots would no doubt carry it through a dry spell without harm.

One feature noted by B.T. Goadby and O. Sargent in Western Australia is that *C. ovata* is pollinated by the same species of wasp that visits the other members of this genus.

References

W.H. Nicholls - Orchids of Australia.