

CARNIVOROUS PLANT NEWSLETTER OF AUSTRALIA

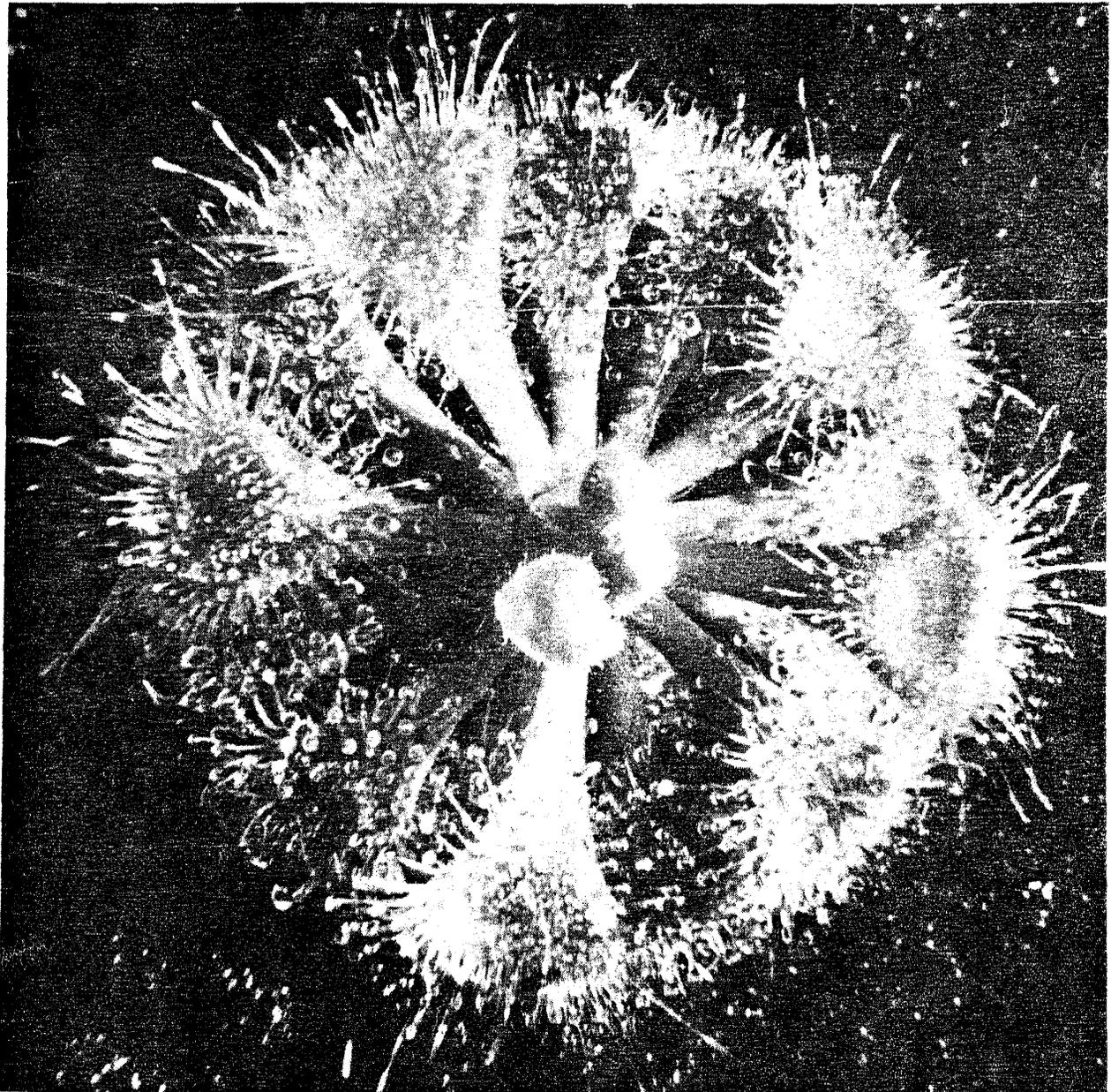


Volume 2

September, 1979.

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DROSER A B U R M A N I I



H A B I T A T - T R O P I C A L A U S T , A S I A .

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West Australia. 6084.

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FROM THE EDITORS

I would like to start this issue by thanking the many who sent their
congratulatory letters to us regarding the first issue of CPNA, to the
few who found it was not up to there expectations, we can only say we
hope with a little polish, future issues will improve to the standard
that will suit all.

It is disappointing to note the lack of response for write-ups, and we would
like to stress again the need for your support in this area.
Our membership is now in excess of one hundred and increasing steadily. A
list of current subscribers is listed in this issue and we plan to up-
date each newsletter.

This issue we have an added bonus in the form of an excellent write-up
on Nepenthes mirabilis by Dr. P.S. Lavarack, a botanist with the
National Parks Wildlife Service in Queensland. Dr. Lavarack is also
editor of the Native Orchid Bulletin in Brisbane and is a dedicated
c.p. grower. We look forward to more of this gentleman's articles for
future issues.

Good Growing,
Editors.

CARTOON CORNER.



This Quarter award
for a cartoon or
sketch goes to
Jim Lillis of N.S.W.
Drop Sue a line Jim,
and let her know
what c.p's you would
prefer for your
\$15-00 award.

"OH, HE'S OUT IN THE GREENHOUSE.
THE SILLY OLD FOOL IMAGINES HE'S DISCOVERED A
NEW SUPER - FERTILIZER."

C.P.

LETTERBOX.



Editors - Advise the incorrect phone number was placed in Vol 1 of C.P. Letterbox for Lynette and Alan Worland. We are placing the notice again below, this time with the correct phone number. Our apologies to Lynette and Alan.

We would also like to welcome to our membership Lynette's father, Arthur Morris, who was given a birthday surprise in the form of a C.P.N.A. membership, and as Lynette says, has now caught the bug. What an excellent idea Lynette. Perhaps there are other members out there that have friends or relations that would appreciate such a gift, which in turn, would help to increase our numbers and promote the c.p. cause around Australia.

ALAN & LYNETTE WORLAND 13/2 PEARSON ST, BALMAIN EAST. NSW. 2041

WRITES : We have only discovered c.p.'s in the last few months but we have caught the bug and are truly fascinated. We've found out how difficult it is to find any information on them, so are very pleased at the efforts with regards to the newsletter. Alan & Lynette wish to correspond with other growers. They are keen on all c.p.'s, so anyone interested drop them a line or phone them, on Sydney 823433.

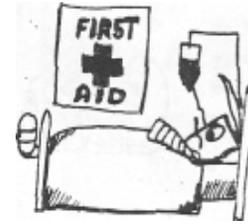
THE EDITORS thank Gordon Hanna of Kilaben Bay, NSW for sending in some excellent slides of Nepenthes pitchers and flowers towards the building up of the CPNA photo's bank. We will certainly put these beauties to good use at a later date. Whilst on the subject of photo's, we would like to remind anyone who may have a few good photo's or slides, in good condition we could use in the newsletter to send them along, we will copy and return if you wish.

JOHN JAMES 28 ARRAN AVE, HAMILTON, QLD. 4007. WRITES . I would like to share with you my method of growing *Drosera prolifera*, a rather rare plant from the Cape York Peninsula, as a number of people who I correspond with have found difficulty in growing it. I find it best to plant it in pure sphagnum with charcoal both on the bottom of the pot for drainage and also mixed lightly through the sphagnum. This ensures that the water is never stagnant, even though my plants are kept constantly wet. The pot needs to be wide but not deep, so as to take full advantage of the flower stems which often produce a plantlet at the end. Thus, I use seedling trays (35 x 29 x 5cm) which are intended to hold eight separate seedling punnets. The main factor would be humidity, for without this the leaves begin to decrease in size as each successive leaf is produced, until only short stunted ones appear. The wide trays help increase the humidity, as they have a large moist surface area. I grow *Drosera prolifera* in 50% shade in my hothouse which is heated to 18 c during winter. Only once have I seen the seed, which unfortunately did not germinate. It appears that this plant reproduces asexually with much more success than it does by seed, for it can also be easily propagated by leaf cuttings. If anyone has had any success in germinating the seed I would very much like to hear from them.

Pages 3 - 7 of CPNA Vol. 2 contained a list of subscribers



FIRST AID.



Dear Friends - This issue heralds the coming of spring and with it the regrowth of our carnivours that experience a dormancy period, and unfortunately, the decline in growth of our annuals. I would like to remind you again, especially the inexperienced new growers, not to hesitate in writing in to this column with any problems you have with your c.p.'s, no matter how small they seem to you. Please remember to send a s.a.e. if you require an urgent reply. You will also find below a list of experienced growers, from each state, who will be glad to help with any urgent problems you may encounter. Don't forget the s.a.e.

Editor.

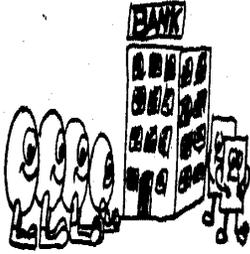
Q.L.D. John James. 28 Arran Ave, Hamilton, Eris. QLD. 4007.
 N.S.W. Robert Riedl. 14 Auluba Rd, Turramurra. NEW. 2074.
 Steve Clemesha. c/- P.O. Moonee Beach. NSW. 2450.
 VIC. Stephen Jackson. 478 Mitcham Rd, Mitcham. VIC. 3132.
 S.A. John Emerson. 12 Arthur St, Port Pirie. SA. 5540.
 W.A. C.P.N.A. Wandena Rd, Bullsbrook East. WA. 6084.
 N.Z. Jim Forest. 19 Fairview-Place, Te Puke. New Zealand.

JIM LILLIS OF BAULKHAM HILLS WRITES : (1) I read in an American gardening magazine that *Dionaea* (Venus Flytrap) seed must be kept in the refrigerator in order to keep their viability. Is this really necessary, and if so, does this also apply with the seeds of other Carnivorous plant species seed ? Also, what is the best way 'to store my seed ?

ANSWER : *Dionaea* and all seed from temperate areas need to be stratified before sowing. Stratification is placing your seeds into the refrigerator for six to eight weeks to simulate the same conditions as the plants habitat. If you wish to store *Dionaea* seed I suggest the fridge would be the best place.

(2). With Pitcher Plants, is it necessary to fill each new pitcher with rain water to simulate rain flowing into them when in the wild, or is the fluid manufactured inside by the plant itself ?

ANSWER : *Nepenthes*, *Sarracenia* and *Cephalotus* plants produce their own fluid in every pitcher. It is only necessary to add water if a pitcher has been emptied out or evaporated. If pitchers are in need of water it is advisable to half fill the pitcher or it will quickly wither and die.



SEED BANK.

There was a fair response to the seed bank project following the first C.P.N.A. As a result we have over 1,300 packets in stock, coming from 9 donors.

I would like to improve the range of native seed, as at the moment the bank is comprised mainly of overseas species. Also if any subscriber has access to fair quantities of native species seed, above and beyond what our bank can use, I will attempt to swap any excess with Patrick Dwyers' C.P.N. bank for species not readily available here.

So. I hope that all C.P.N.A. subscribers get out and do some seed collecting, and help make the bank a success. Any quantity is welcome, even the most common species will be made use of.

Finally, my sincere thanks to all donors who gave very generously to give the bank a good start.

Steve.

DONORS

Exotic & Bizarre Plants	200	Reinhard Frenzer	257.
John Graham	43	Fred howell	65
Steve Jackson	140	Allen Lowrie	50
Phill Mann	220	Joe Mazrimas	130
John Turnbull	223		

SEED BANK INVENTORY.

As of August 12, 1979.

Drosera anglica. 77. D. burkeana 100. D. burmanni (Taiwan) 70.
 D. capensis (narrow) 80. D. capensis 20. D. capillaris (Gulf Coast Giant) 8.
 D. dielsiana 20. D. erythrorhiza 50. D. heterophylla 10. D. intermedia 50.
 D. linearis x D. rotundifolia 70. D. linearis 60. D. rotundifolia 40.
 D. spathulata (Rust) 6. D. spathulata (Mauve Flower) 26. D. spp 'Montana' 40.
 D. whittakerii 1. D. from W.A.
 MIX 15. D. from U.S.A. MIX 10. Sarracenia flava 9. S. leucophylla 140. S. mix 25.
 S. purpurea 10. S. purpurea venosa 10. Byblis liniflora 16. Byblis gigantea 20.
 Cephalotus Follicularis 60. Nepenthes khasiana 80. Pinguicula caerulea 40.
 P. vulgar-1s 100. Dionaea Muscipula 2. Darlingtonia, Californica 80.

ORDERS

Cost of seed - \$.50 per packet.

Any number of packs may be purchased, but only one per species can be bought. List what seeds you would like and also an equal number of substitutes in case stocks- are low. Clearly print your name and address and send check or money order, made out to C.P.N.A. Seed Bank.

c/- Stephen Jackson.
 478 Mitcham Rd,
 Mitcham. Victoria. 3132.

If requested, I will send all cultural and germinating information that I know of. All correspondence must be accompanied by s.a.e. except when ordering seed.



CEPHALOTUS FROM SEED.
By Allen Lowrie.



When the flowers of my Cephalotus plants bloomed in Jan-Feb, 1978, I pollinated the small greenish-white flowers by brushing a small soft artists brush over the flowers daily, over a period of about 3 weeks, until all the flowers were pollinated. I knew I had success when the many ovaries (each one became an individual seed) in the centre of the flowers enlarged and started growing out from the face of the flower. About one month later the seeds were ready to harvest. This was done daily as I found if I didn't collect the seed when it was ripe, the slightest movement of the flower spike was scattering the ripe seeds everywhere.

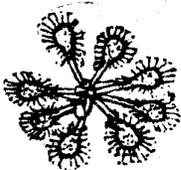
I dried out the collected seed (which took about a week) then sowed the seed on spaghnum moss in a closed clear container. Nothing happened until the cold weather in June-July, 1978 when to my surprise the seeds germinated.

The first two leaves appeared and slowly grew larger over the next month. Then I transplanted the small seedlings into German peat moss where the Cephalotus seedlings took off like a rocket. Six months later, exactly the time of the seedlings parents were blooming again, the small seedlings started to produce their first pitchers.

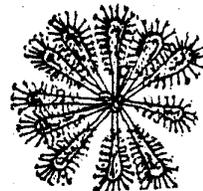
It's now May, 1979 and the seedlings are as big as a five cent coin. I've collected seedlings this size from the wild and have found from previous experience, that one more year will see my Cephalotus seedlings of 1978 about 3" across.

What I have realized from this first successful attempt in Cephalotus seed raising is the following.

I lost 3 to 4 months of growing time from seed collection to germination. The answer could be to put the seeds into the fridge for a short period to make the seeds think it's winter and time to germinate. Time will tell if I'm successful.



D. spathulata (Kansas Type)



D. spathulata (Kanto Type)

AUSTRALIAN

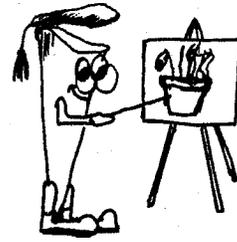
PLANT & SEED SOURCES.

<u>NAME & ADDRESS,</u>	<u>CATALOGUE</u>	<u>GENERA</u>
CARNIVOROUS & UNUSUAL SEEDS. 3 Normandy Ave, Para Hills, S.A. 5096.	S.A.E.	Carries a good variety of seed only.

EXOTIC & BIZARRE PLANTS. Wandena Rd. Bullsbrook East. W.A. 6084.	SEND 20 STAMP	Dionaea-Nepenthes Pinguicula-Drosera Sarracenia-Cephalotus- and most C.P. Seed.
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Full list of C.P. Books available. Exotic & Bizarre offers 10% discount to all C.P.N.A. subscribers. Please note that the original offer of 20% in the last issue does not now apply.

BEGINNERS PAGE.



The majority of c.p. interested folk that I have spoken to in Victoria, appear to be under the misapprehension that all Carnivorous Plants are strictly to be grown under Glasshouse or Terrarium conditions. In many-cases this is so, however the mild climate that we experience in Southern Victoria makes it possible to grow a wide range of native and overseas Carnivorous plants out doors.

Although this practice is widespred in the U.S., little if any outdoor c.p. growing occurs in Australia. This I feel can be attributed to the lack of availability of propagated carnivorous plants in this country. The plants- when obtained are as a rule very highly prized by the c.p. enthusiast and the last thing that he wishes to do is to put the plants life at risk by experimenting with different growing conditions.

My experience in outdoor c.p. growing began two years ago after I had at least two of each of the plants in my collection, and after I had got over the fear that some of my plants would possibly die. The first plants tried included some native *Drosera* ie *D. acturi*, *D. binata* and *D. binata multifida* (QLD) some terrestrial *Utricularia* and *Dionaea muscipula*. These plants thrived in a plastic tub under a cabbage gum so I soon got bigger and better ideas.

The next model was slightly more sophisticated. It consisted of a pit, two meters by one and a half meters by twenty centimeters deep, lined with polythene. I part filled this with a large bale of Trish Peat and contoured the surface with live spagnum so that wet loving, plants could be grown in hollows and dry loving plants on the mounds. I got quite adventurous with the planting that followed and it soon became a truly multinational bog.

As I had a lot of success with *Dionaea* in my first bog, I though that it would be an idea to try other U.S. plants from the Southern states where the climatic conditions are somewhat similar to ours in Victoria. This led to the planting of a range of *Sarracenia*, including *S. leucophylla*, *S. flava*, *S. minor* and *S. rubra*. These plants thrived so I continued adding to the population with plants from Northern U.S. ie *D. intermedia*, *D. capillaris*, *D. filiformis* and *S. purpurea* After that, any sub-tropical or temperate plant in my c.p. collection ended up in my bog. The diversity of plants that I could grow outdoors soon amazed me. Even delicate sundews like *D. capensis* exhibited the same beauty outdoors as it did in the humid, protected atmosphere of my glasshouse.

Well, my bog has come through another summer with flying colours. Now I'm doing some hard thinking about a still bigger bog, maybe with a stream so as I can try my *Darlingtonia* and create a better area for my *Utricularia*. But this is well into the future, as I doubt whether I have enough plants for that project as yet.

I'm really happy with the success of my bog, but I hope that no-one reading this article will get carried away and put their valuable plants outside without first doing some experimentation. It's an exciting way to grow c.p.'s and I hope that many will experience the same good results as I did. Good Growing!

BOTANIST'S CORNER.

NEPENTHES MIRABILIS IN AUSTRALIA.

By Dr. P.S. Lavarack.

The genus Nepenthes contains about 70 species spread between Madagascar and New Caledonia, but with the centre of distribution being the Malay Peninsula, Borneo and Sumatra. One species, N. mirabilis occurs in Cape York Peninsula. It is the most widespread species in the genus occurring in New Guinea, throughout the islands to the mainland of Asia.

The first reference to Nepenthes in Australia comes from William Carron the botanist with the ill fated Kennedy expedition of 1848. Carron (1849) writes of an area near the Walsh River "By the side of the small streams running through the flat ground, I saw a curious herbaceous plant, with large pitchers at the end of the leaves, like those of the common pitcher plant (Nepenthes distillatoria). It was too late in the season to find flowers, but the flower stems were about 18 inches high, and the pitchers would hold about a wine-glass full of water. This interesting and singular plant very much attracted the attention of all our party."

This record is interesting as Nepenthes has not subsequently been reported from anywhere near this area. However Carron was writing from memory and the record is therefore by no means certain. Pitcher plants were also commented on by other explorers such as Logan Jack (Jack 1921), but the rigors of travel in this area were such that serious botanical records were not obtained until the establishment of the settlement at Somerset by Frank Jardine in the later part of the last century. Jardine was host to many leading scientists and naturalists including the Queensland Colonial Botanist, F.M. Batley and the noted painter Mrs Rowan whose paintings of Nepenthes are to be found in 'Plants of Prey' by Rica Erickson.

The first botanical description of Australian material was by Baron von Mueller in 1866 who described N. kennedyi. Bailey followed with descriptions of another 10 species between 1881 and 1905. These were N. bernaysii, N. jardinei, N. albo-lineata, N. moorei, N. alicae, N. cholmondeleyi, N. pascoensis, N. armbrustae, N. garrawayae.

These names stood until 1928 when B.H. Danser in his epic work 'The Nepenthaceae of the Netherlands Indies' (still the standard reference on the genus) reduced all these names to synonyms of N. mirabilis saying '. . . they are nearly all mere growth forms of N. mirabilis.'

Nepenthes mirabilis is a plant of swamp margins and other areas which are wet for at least half the year. While it is sometimes though of as occurring in a few-separate areas such as Weipa, Tozer's Gap, Jardine River area and near Coen airport, it is in fact a very common plant in the northern part of the Peninsula wherever the habitat is suitable. Vast areas of swampland, almost never visited, are abundant on the east coast and N. mirabilis is one of the most conspicuous plants in these swamps. Apart from Carron's report, pitcher plants have apparently not been found south of Coen, with the exception of an isolated population several hundred kilometers to the south near Cairns.

The climate of northern Cape York Peninsula is strongly seasonal. Most of the area receives in excess of 1400 mm annual rainfall,

(over)

(CONT.)

but almost all of this falls, in the period December to April. However even in the dry season the area is subject to moist south-easterly winds which maintain a high humidity throughout the year. Temperatures never fall below- about 15 c over most of the area although near Coen in the southern part where pitcher plants are scarce July temperatures may fall to about 10 c. Day temperatures vary from a maximum of about 28 c in Winter to about 35 c in Summer.

In exposed situations which are dry during the winter, the plants are usually compact small shrubs, but in permanently wet shady swamps, they grow into long straggling vines reaching up to 10 m into the trees. Plants growing under the latter conditions usually produce very few pitchers, while those in the sun produce pitchers prolifically and as a rule are more colourful. I have seen *Nepenthes* in several different parts of the Peninsula and the greatest variation appears to occur in the area near the Jardine River and north to the Cape York itself. The largest pitchers I saw were about 25 cm long but this was on one plant only. Most have pitchers about 8-15 cm long or smaller on younger plants. The form described by Bailey as *N. rowanae* is one of the most decorative, having large pitchers which are squat in shape and usually deep red in colour. Some plants continually produce small pitchers less- than 5 cm in length. One such plant has been growing in my glasshouse in Brisbane for about 3 years with no increase in size of the pitchers. Colour is variable, mostly green but often with patches of red, particularly on the upper part of the pitcher. Quite often the underside of the lid is dark red. The shape is also variable from squat to elongated. Lower pitchers often are ornamented with two distinct fimbriate wings which are absent or nearly so on the upper pitchers. In the southern part of the range, and in the Cairns population, there is not a lot of variation, with the pitchers mostly being about 10 cm long, relatively slender and even green in colour.

The flowering period is not entirely clear, but I have observed flowers in August and September and have collected fresh viable seed in September and in December. Seedlings are common, but the plants also reproduce by natural layering as the long straggling stems put down roots and send up shoots wherever they touch the ground. Old stems eventually die and separate plants result.

In their natural habitat the plants suffer from very few pests and diseases. There are two problems facing pitcher plants on Cape York - fire and pigs. The plants survive the occasional fire which penetrates the swamps in very dry years by means of a below-ground tuber, but they-cannot with Stand regular yearly fires. Wild pigs often dig plants up when digging up other food plants.

Cultivation is-possible in bush house conditions in the tropics or in a heated glasshouse in temperate regions. The plants should be kept evenly moist and humid at all times and should preferably be grown in a strong light. Night time temperatures above 15 c are best for good growth and the plants-must be sheltered from winds at all times. They do well in a variety of mixtures but most include peat moss, sphagnum moss, perlite and coarse sand. The medium should remain moist but not soggy after watering.

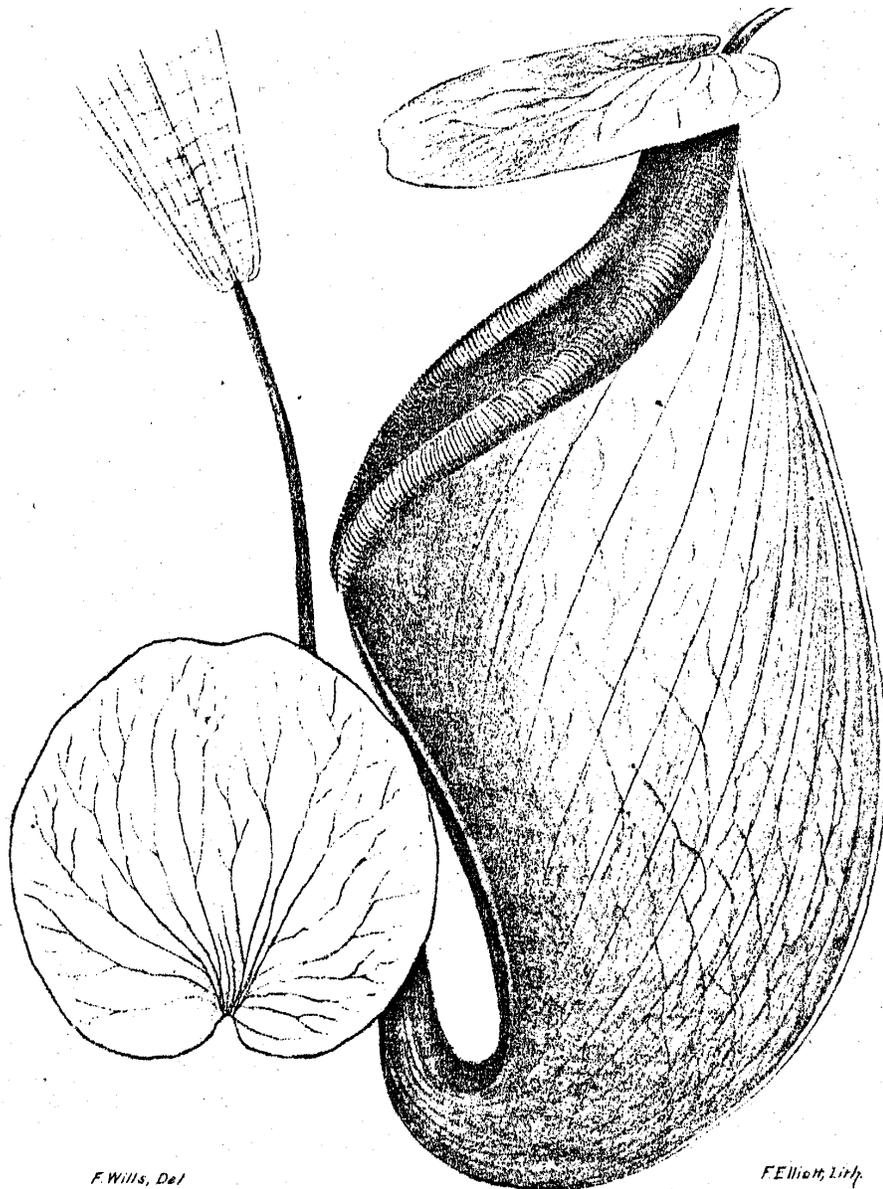
Propagation from plants in cultivation is best achieved by cuttings as the production of seed requires a male plant and a female plant to be in flower at the same time.

(Cont.)

BOTANIST'S CORNER CONT.

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- Bailey, F.M. (1901) "The Queensland Flora" 1V. The Queensland Government, Brisbane.
- Dauser, B.H. (1928) "The Nepenthaceae of the Netherlands." Indies. Bull. Jard. Bot. Buitenz., Serlll Vol1X.



F.Wills, Del

F.Elliott, Lith.

Nepenthes Rowanae Bail.

TRADING POST.

BUY TRADE SELL



When sending in Want Ads, please print clearly name and address, in order to eliminate mistakes. Full botanical names should be submitted with all ads, where a new grower is uncertain of correct name, common name may be sent in, but will be correctly named in advert.

Please mark clearly whether you wish to Buy, Swap or Trade. Adverts from commercial sources will not be accepted except where a private collection is involved.

Keep strictly to your trade agreements and where possible answer all replies promptly.

.....

REINHARD FRENZER. JOHANN STRAUSS - GASSE 24 A-2340 MODLING, AUSTRIA EUROPE. Would be interested in corresponding with a few experienced growers with a view to swapping c.p's. Reinhard also is keen to get hold of some seed of the Eucalyptus tree, preferably varieties from the colder areas.

DON BURDEN. RT 3 BOX 219, FLOYDO KNOBS. IND. USA. 47119. Would like to correspond re the trade. or purchase of Nepenthes and offer,-; for trade Nepenthes alata, alata 'Luzon', ventricosa, ampullaria, rafflesiana, boissiensis, boissiensis rubra, gracilis, gracillima, williamsii, kampoiana, balfouriana, morganiana x williamsii.

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GORDON HANNA. 168 KILABEN RD, KILABEN BAY. N.S.W. 2283. Has a quantity of Nepenthes maxima and would like to hear from any growers with offers to swap or buy.

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