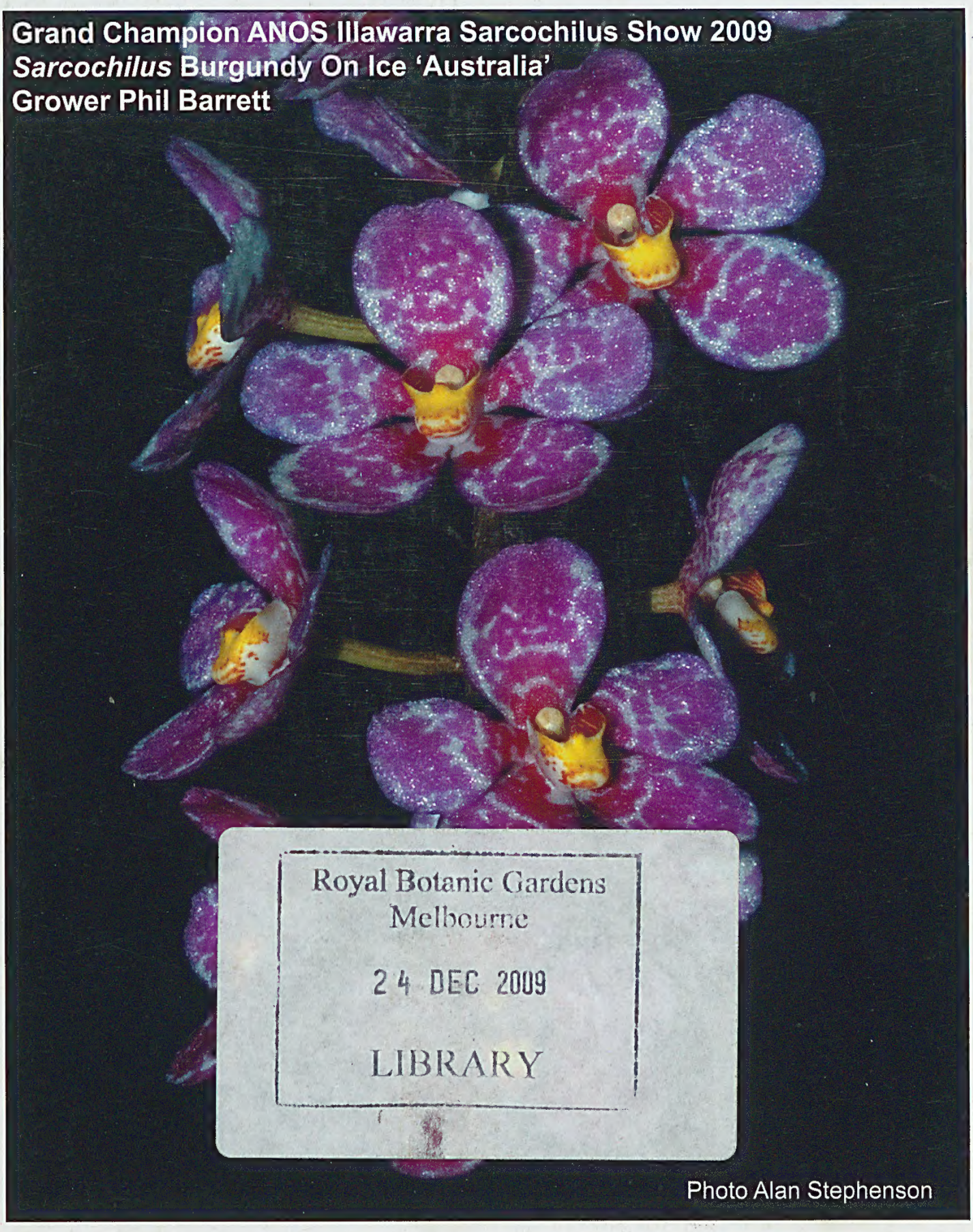
The Orchadian

Volume 16, Number 6 www.anos.org.au December 2009

Official Journal of the Australasian Native Orchid Society



Grand Champion ANOS Illawarra Sarcochilus Show 2009
Sarcochilus Burgundy On Ice 'Australia'
Grower Phil Barrett

Photo Alan Stephenson

The Orchadian

Official Journal of The Australasian Native Orchid Society Inc.
Founded August 1963

www.anos.org.au
Dedicated to the Study and Conservation of Australasian Native Orchids
Print Post Approved PP239628/00002, ISBN 0474-3342

Patron: Walter T. Upton AOM
December 2009 Volume 16 Number 6

CONTENTS

Features

Photographs

Editor, *The Orchadian*:
Peter Eygelshoven
8/34 Sturdee Pde
Dee Why NSW 2099.
Email: orchadian@anos.org.au
or aussiepete123@hotmail.com

Membership Officer:
Bill Dobson;
bdobson@optusnet.com.au
All membership enquires should be directed to Bill Dobson.

Conservation Officer:
Alan Stephenson: affine@tpg.com.au

ANOS CORRESPONDENCE:
A.N.O.S. Inc. P.O. Box 318,
Willoughby, N.S.W. 2068

ARTICLES:
Items for consideration may be submitted to the Editor on disk or via e-mail using Microsoft Word, Works or Wordperfect.
Good quality sharp colour slides, prints or illustrations may be submitted with articles. 300dpi digital photos can also be submitted. All efforts will be made to return images after publication.

SUBSCRIPTION RATES (AUD$)
$50 Australia
$60 Asia/Pacific
$70 Other Countries

Editorial.

When I moved and cancelled my internet, my provider would not allow me to keep my old email address. So please note that I now have a new email address, two actually. I do apologise to all those who have had trouble contacting me through my old email address.

In this issue we have some show reports from Illawarra and NOSTI groups, David Jones and Paul Ormerod have described some new species, also some reports on conservation activities from NOSSA and Illawarra Groups. It is always interesting to read what activities the Groups are involved with. From simple walks to the more detailed conservation projects. With these articles there are many great photos unfortunately I cannot use them all.

I was fortunate to participate in some of the Illawarra group activities and when they have a walk it is a great day out, seeing plenty of orchids and having a social day out with one of the more active Groups is nothing short of ... well A Great Day Out. From their recent Spring and Sarcochilus Shows the Group picked up several new members and they all came along for the day out. It was great to see the enthusiasm of the new members and the friendship offered by the senior members of the group..

For the past seven or eight years I have had a wonderful time in putting together *The Orchadian*, but the opportunity has come for me to spend some time travelling overseas next year, so the March 2010 issue will be my last. So if anyone is interested in taking over the position of Editor you are welcome to submit your interest to Council. If you have any questions about the position you can always contact me. This is a great journal, Council and myself will help you with settling in, so give it some thought and let Council know.

On behalf of all the ANOS Councillors we wish all our members the very best for Christmas and the New Year and hope the year ahead will be full of wonderful times.

Regards Peter

Illawarra Show '09
Sarcanthinae
Species Seedling-
First Flowering
Sarcochilus
hartmannii 'Red
Snow' x 'Orange
Eye'
Grower
Barry Bush.

Illawarra Show '09
Sarcanthinae
Hybrid Seedling-
First Flowering
Sarcochilus
Zoe 'Crimson'
x Orange Glow
'Flames'
Grower
John Hynds

Photos
Alan Stephenson

Reserve Champion ANOS Illawarra Sarcochilus Show, Champion Species and winner of the Gwen Gough Memorial Trophy. *Sarcochilus hartmannii* 'Snow Storm' x 'BS'. Grower Phil Barrett

Vale Robert Napier
(1928-2009)

Robert Napier (Bob) was born in Toowoomba on July 28, 1928. The family was originally from Townsville, where his Grandfather was a publican and Mayor on a number of occasions. He was educated at Trinty Grammar School Ashfield, Sydney. Bob worked for many years for Air India and then he worked with QANTAS up to his retirement in the early 1990's.

Bob and his wife Janet had a Norton Motorcycle and sidecar. They travelled to Bathurst to the bike races together with Fiona their daughter. Bob and his brother also entered into car club events travelling all over the state.

On the personal side Bob was a unfulfilled philosopher. His particular interests were in the ideas of the enlightenment. He had a passion for Latin Grammar and Botanical Latin and history. He was very fond of off the wall humour, including favoured book the Good Soldier Schweik written by Jaroslav Hasek. This book contained an unfinished collection of farcical incidents about a soldier in WWI. Bob enjoyed discussing Hans Kafka's book 'The Castle".

Bob was also a student of German/Austrian opera. He had a collection that comprised most of the works from Mozart and Joseph Haydn.

He was ANOS Treasurer from 1990 to 1993 and was very involved with the first ANOS Conference in Wollongong in 1990. He was ANOS President in 1994/95 and Secretary from 1996-2001. He was also ANOS Public Officer from 2002-2004. He was a founding member of Port Hacking ANOS and Secretary for about half of its 23 year existence. Bob was an excellent organizer and got the job done. He was pivotal in the success of the 1st ANOC Conference & Show at Wollongong in cooperation with John Riley. He had the gift of being able to examine the plusses and minuses of any particular issue that affected the running of ANOS council. He would not support an idea that had not been properly thought through. He was a mostly a pragmatist who was able to improve outcomes even if he stood on a few toes. Bob maintained the Membership list for years.

Janet, Bob's wife of 55+ years is now being well cared for at Kirby Lodge Nursing Home 26-34 Harrow Rd Bexley. When Fiona his daughter died some 15 years ago it was an event which affected Bob and Janet severely. Fiona died from a Melanoma. Bob and Janet never got over her loss. Their ever faithful son-in-Law Robert Parker and his children Kate, Danny and Robbie make sure that Janet is well cared for. A personal visit is best as she cannot respond to telephone calls or letters.

Peter Dowling

Bob and Janet Napier, 2001.

6th Australasian Native Orchid Conference & Show

Proudly hosted by the Newcastle Group

26th-29th August 2010
Set up 25th
Newcastle - Club Panthers Cnr King & Union Streets, Newcastle

Featuring:

- Spectacular native orchid displays by the best growers in the country.
- Guest speakers lecturing on a diverse range of native orchid topics.
- Native orchid vendors plus much more.
- Tours taking in the delights of the Hunter including wine tasting, whale watching, Kempsey Speciosum Spectacular or river cruise the Myall River to view dockrillia teretefolia in full bloom & wildlife.

REGISTRATIONS NOW OPEN

EARLY BIRD REGISTRATIONS CLOSE 31ST MARCH 2010

Early Bird	$180
Partner	$120
Standard	$220
Partner	$160
Day Registration	$50

Cheques payable to
6th ANOS Conference & Show PO Box 4021 Rathmines NSW 2283 or register on line visit www.anos.org.au/conference/

For further information please contact Conference Secretary peterden52@bigpond.com or phone Greg Hannah 0411340570

Prasophyllum uvidulum. Photo Dean Rouse

Prasophyllum uvidulum, a critically endangered new species of Orchidaceae from north-eastern Victoria.

David L. Jones* & Dean T. Rouse#
*Kalaru, NSW, 2550, Australia
#Plant Science, Research School of Biology,
Australian National University,
GPO Box 475, Canberra, ACT, 2601

Abstract
Prasophyllum uvidulum, a critically endangered species from near Shelley in north-eastern Victoria is described as new.

Key Words
Orchidaceae, *Prasophyllum uvidulum*, new species, critically endangered, Australian flora, Shelley, Victoria.

Introduction
The opportunity is taken to describe a new species of *Prasophyllum* which has a highly restricted distribution in north-eastern Victoria. It has been linked with *P. frenchii* F. Muell. but is morphologically most similar to *P. canaliculatum* D.L.Jones.

Materials and Methods
The description of the new taxon was prepared from fresh material. Dried specimens of *Prasophyllum* were examined from the following herbaria: AD, BRI, CANB, HO, MEL and NSW. Unless otherwise indicated, all types of related taxa (or photographs thereof) have been examined.

Taxonomy
Prasophyllum uvidulum D.L.Jones & D.T.Rouse, ***sp. nov.***; affinis *P. canaliculato* D.L.Jones, sed floribus minoribus, sparsis, plus coloratis; labello late ovato-lanceolato, midilobo longissimo; callo breviore, elliptico, marginibus irregularibus vel crenatis; quoque *P. frenchii* F.Muell., sed floribus minoribus, tepalis late effusis; labello midilobo longiiorissimo; callo elliptico, canaliculato, apice angusto, differt.

Type: Victoria. Pheasant Creek Flora Reserve, near Shelley, 18 Dec. 2000, *D.L.Jones 17787 & K. FitzGerald* (holo CANB).

Illustrations: Plates 28a,b (Rouse 2002); lower plates, page 262 (Jeanes & Backhouse 2006).

Description: Tuberous terrestrial *herb* 20-35 cm tall, growing as scattered individuals. *Tubers* not seen. *Leaf* erect, 20-40 cm long, 3-5 mm wide, terete, light green to dark green, base 2-3 mm diam., reddish-purple; free lamina erect, 9-18 cm long, withered towards the apex at anthesis. *Inflorescence* a moderately open spike 8-12 cm long. *Floral bracts* ovate, 1.5-2 mm long, c. 2-2.5 mm wide, closely embracing the ovary, apex apiculate. *Ovaries* at about 30° to the rachis, obovoid, 4-5 mm long, 2.5-3 mm wide, green with reddish ridges. *Flowers* 12 - c. 25, 7-10 mm across, light green with reddish markings, labellum green to pink or mauve, lightly fragrant, sessile. *Dorsal sepal* ovate-lanceolate, 6.5-8.5 mm long, 3-3.5 mm wide, deflexed, shallowly concave to flat, recurved distally, apex apiculate, with 3-5 distinct darker veins. *Lateral sepals* free, narrowly linear-lanceolate, 8-9 mm long, 1.3-1.8 mm wide, obliquely erect, nearly parallel, shallowly recurved distally, base not gibbous, distal margins strongly involute, apex bidentate. *Petals* linear to linear-lanceolate, porrect to spreading, 6.5-7 mm long, c. 1.5 mm wide, entire, apex subacute. *Labellum* sessile, obliquely erect in the proximal half, recurved at about 80° just above the middle, distal half obliquely erect to recurved, the tip just protruding through the lateral sepals; lamina broadly ovate-lanceolate, 6-6.5 mm long, 4-4.5 mm wide, whitish to pinkish or mauve, widest

below the middle, constricted above the middle, base not gibbous; proximal margins flared, spreading, entire to slightly irregular, distally tapered to the apex; distal margins slightly irregular; apex subobtuse. *Callus* elliptical, extending about half of the distance to the labellum apex, fleshy, c. 3.5 mm long, c. 2 mm wide, dark green, shiny, narrowly channelled, margins irregular to crenate. *Column* porrect from the end of the ovary, c. 3 mm long, c. 2.5 mm wide; appendages linear-oblong, c. 2 mm long, c. 0.5 mm wide, pink, curved, parallel, apex subobtuse, about as long as the stigmatic plate. *Anther* ovate, c. 2 mm long, c. 1.6 mm wide, brown. *Pollinarium* c. 2 mm long; viscidium ovate, c. 0.3 mm long; hamulus narrowly ligulate, c. 0.4 mm long; pollinia c. 1.6 mm long, yellow, sectile. *Stigma* quadrate, c. 1.4 mm long, c. 1.6 mm wide, the rostellum of similar height to the appendages. *Capsules* not seen. **Fig. 1.**

Distribution and ecology: Known from a single site near Shelley in north-eastern Victoria growing among grass in moist to wet seepage areas within tall montane forest. The soil is a heavy grey/brown clay loam. Alt. c. 700 m. Flowering: December and January.

Recognition: Characterised by summer flowering habit, moderately open spike of uncrowded relatively small colourful flowers; lateral sepals free, more or less parallel; labellum broadly ovate-lanceolate, constricted above the middle, with entire to irregular margins and, a distinctive elliptical callus that extends just beyond the labellum bend. This callus has a narrow central channel and irregular to distinctly crenate margins.

Similar species: *Prasophyllum uvidulum* has affinities with *Prasophyllum canaliculatum* which can be readily distinguished by its broadly ovate-elliptical labellum with a short tail-like midlobe (broadly ovate-lanceolate with an extended midlobe in the new species) and a rectangular callus (elliptical in *P. uvidulum*) which also has a short tail-like apical extension. It has also been linked with *P. frenchii* F. Muell. from which it is readily distinguished by the widely spreading perianth segments (mostly incurved in *P. frenchii* giving the appearance of the flowers not opening widely), long tapered labellum midlobe (short and tail-like in *P. frenchii*) and the elliptical callus with a narrow central channel and narrow apex (the callus of *P. frenchii* ends in a distinctive horseshoe-shaped structure). *P. constrictum* R.S.Rogers from South Australia which flowers in spring, is somewhat similar but has much paler flowers, an ovate-oblong labellum with crispate margins that often pinch in to the level of the callus and, a narrow callus that extends nearly to the labellum apex.

Notes: Rouse (2002) listed this species as *Prasophyllum* sp. aff. *frenchii* B. Jeanes & Backhouse (2006) list the species as *Prasophyllum* sp. aff. *frenchii* 3 with the vernacular of Summer Leek Orchid.

Etymology: The Latin *uvidulus*, diminutive of *uvidus*, damp, moist, wet, in reference to the habitat of small damp to wet soaks.

Conservation status: Known from a single colony of about 20 plants and not found elsewhere despite several searches. It grows within a small Flora Reserve which is surrounded on two sides by pine plantations. The site where the orchid occurs is subject to weed invasion. This species is considered to be in a precarious position and we consider a conservation coding of Critically Endangered (IUCN 2001) to be appropriate.

Specimens examined: VICTORIA. Near Shelley, 21 Dec. 1992, *P. Branwhite (DLJ 11034)* (CANB); Pheasant Creek, near Shelley, 3 Dec. 2000, *D.Rouse (ORG 3223)* (CANB).

Acknowledgements
We thank Marion Garratt and Karina Richards for technical assistance, Jean

Egan for preparing David Jones' drawing for publication, and Barbara Jones, Bill & Jean Egan and Tony Wood for comments on the manuscript. Peter Branwhite provided specimens and Laurie Adams the Latin diagnosis. The Directors of the following herbaria are acknowledged for allowing access to specimens; AD, CANB. MEL, NSW, PERTH.

Literature Cited

IUCN (2001). IUCN *Red List Categories and Criteria*: Version 3.1 IUCN Species Survival Commission. IUCN Gland, Switzerland and Cambridge, United Kingdom.

Jeanes, J. & Backhouse, G. (2006). *Wild Orchids of Victoria, Australia*. Zoonetics, Seaford, Victoria.

Rouse, D.T. (2002). Report on the taxonomic, ecological and conservation status of taxa in the genus *Prasophyllum* R.Br. in south-eastern Australia. Study supported by the Australian Orchid Foundation.
http://www.rsbs.anu.edu.au/Profiles/Dean-_Rouse/ZipFiles/PrasReportWeb.zip

-oOo-

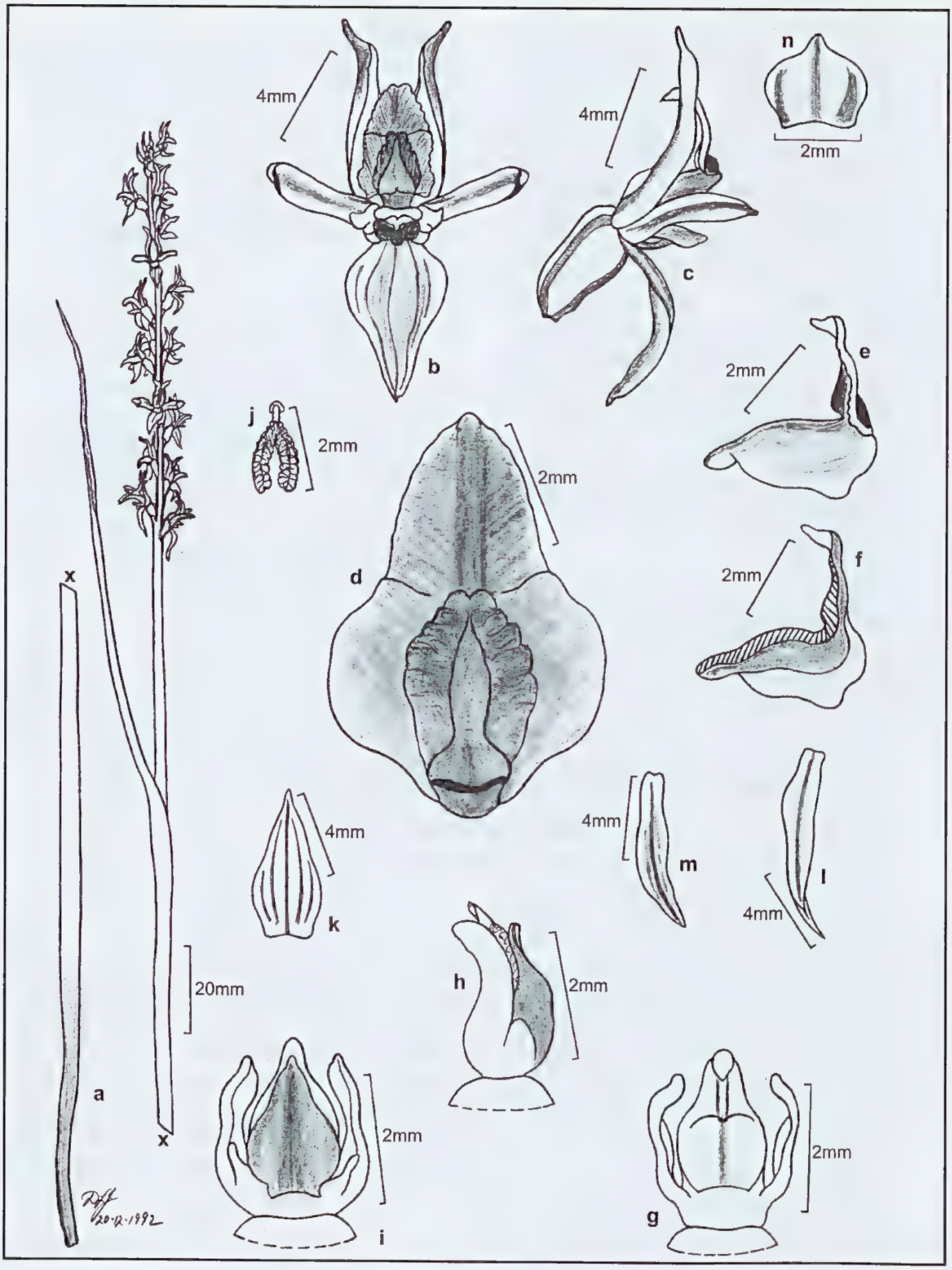


Fig. 1. ***Prasophyllum uvidulum***, Shelley, Victoria, *P. Branwhite (D.L.Jones 11034)*. a. plant; b. flower from front; c. flower from side; d. labellum from above, flattened; e. labellum from side; f. longitudinal section of labellum; g. column from front; h. column from side; i. column from rear; j. pollinarium; k. dorsal sepal; l. lateral sepal; m. petal; n. fertile bract.

A *Sarcochilus* show with extras.

It was supposed to be the usual Sarcochilus show but at times it looked more like a constantly running exotic *Cymbidium* Expo, at least on the outside of the building. A few years ago ANOS Illawarra moved from having our Spring Show and Sarcochilus Show at a Regional Shopping Centre for several reasons. One was that the society gained the distinct impression the centre did not want us there due to murmured complaints from some adjacent businesses, secondly we worked long hours for little return, so through a proposal by Bruce Porter we examined the Old Courthouse at Belmore Basin and decided to try our luck. The first Sarcochilus Show was held there in 2004 and the Spring Show followed the year after. To say the move has been of benefit to the society would be an understatement and the building is just the right size for our group. The location is first class as it is 200 metres from the shores of Belmore Basin with a good restaurant across the road, a well used and recently rejuvenated public park is next to the restaurant and these attract a constant supply of people at any one time either walking themselves or their dogs, jogging along the foreshore or just driving around. The park is also used by the Wollongong Traditional Art Society to exhibit and sell their work.

This move has proved to be a real bonus for ANOS Illawarra as the number of people at our show has increased markedly and the interest is most noticeable as we now see regular people from year to year instead of the constant flow of shoppers passing by with a very small percentage stopping to purchase a plant or raffle ticket. Because of the increased patronage we have also increased the type and value of our raffle at both shows and this is now an A4 photo of a native orchid, framed in recycled cedar. In addition to this we have a popular vote section where winners of champion sections are numbered and members of the public vote for the plant they feel is best, which is not always the plant chosen by the judges. The prize for popular vote is an orchid in flower and again this is very popular and is some indication of attendance figures, as there is no entry fee to either show. This is a double bonus as it gives show visitors some involvement in the day and all winners have been very enthusiastic when they are contacted about their prize. This goes double for the raffle, as the donated prize is valued at $120 or more and all money raised is clear profit.

For the first few years we rigged a temporary shelter on the front of this heritage building to cover the sales area but now have a large Gazebo to cover all of these plus the BBQ, which does a very good trade in sausage sandwiches. After the first year Graeme Bradburn suggested we have a re-potting service as a means of getting more people to the show and hopefully impart some knowledge throughout the community by showing non orchid society members how an orchid is re-potted and explaining any problems these plants might have. This feature has proved extraordinarily popular and the array of plants is vast and the condition of some is horrendous to say the least. The majority of plants with which we are presented are usually exotic *Cymbidium* but other genera we see are *Dendrobium, Sarcochilus, Coelogyne, Stanhopea, Zygopetalum, Cattleya, Oncidium,* Soft Cane and Hard Cane *Dendrobium, Paphiopedilum* and a few *Phalaenopsis* to assess. Many of the plants are very large and in 400 mm pots, which have been inherited from Grandma, Auntie Mavis or the old chap next door after you have taken out his rubbish bin for the past few years.

This year seemed to bring so many oddities such as a 400 mm pot of a

Cymbidium, riddled with white scale, containing three green bulbs and 25 back bulbs, another pot had three different orchid genera in the same pot. They were a *Den.* X *delicatum* a Soft Cane *Dendrobium* and an exotic *Cymbidium.* Another joy to work with was a very large terracotta pot overflowing with a *Dendrobium speciosum* and the owner was amazed we managed to extricate the plant from the pot without it being broken.

I think this year was the busiest year we have had at this venue and for about four hours non-stop each day, as many as four members were extremely busy re-potting and advising members of the public about their plants. Apart from the involved plant owners, we also managed to attract a gallery on interested onlookers who were more than amazed with the exercise, as they had assumed the division and re-potting of their frequently inherited classics would be undertaken with great delicacy but after the service was completed, no complaints were received. Some recipients of this service indicated they did not require more than four pots of the one plant and we found ourselves selling freshly re-potted *Cymbidiums* on the sales table at an ANOS show.

Another new incentive is the New Members Starter Pack. This was introduced at the Spring Show this year to try to attract new members to our society. The pack contains two native seedlings, two 80 mm pots and mix to re-pot them when needed, a range of growing information, society information, a copy of the current Newsletter and membership and the Newsletter for the remainder of the financial year. All this for $12 but the value of the package is $30. At the Spring Show we sold twelve of these packs and nine at the Sarc Show, with new members attending the meeting following the introduction of the pack.

Many orchid societies are struggling to attract members and particularly those who are prepared to take on some responsibility in the year or two following a decision to join, societies must be creative to attract and keep members. This is just the beginning of the Starter Pack and only time will see how successful it might be.

Alan W Stephenson
President ANOS Illawarra
affine@tpg.com.au

-oOo-

Champion Prizes at the Illawarra Sarcochilus Show 2009

1 Grand Champion of Show *Sarcochilus* Burgundy on Ice 'Australia' P. Barrett
2 Reserve Champion of Show *Sarcochilus hartmannii* P. Barrett
3 Gwen Gough Memorial Trophy-Best *S. hartmannii* or *S. aequalis* P. Barrett
4 Champion Sarcanthinae Species of the Show *Sarcochilus hartmannii* P. Barrett
5 Champion Sarcanthinae Hybrid of the Show *Sarcochilus* Burgundy on Ice 'Australia' P. Barrett
6 Sarcanthinae Species Seedling-First Flowering *Sarcochilus hartmannii* 'Red Snow' x 'Orange Eye' B. Bush
7 Sarcanthinae Hybrid Seedling-First Flowering *Sarcochilus* Zoe x Orange Glow J. Hynds

Amazing Helmet Orchids (*Corysanthes*) of the Mount Lofty Ranges in South Australia, 2009 survey.

R. Bates
35 Portmarnoch St
Fairview Park SA 5126

Introduction: It is amazing that South Australia, as the driest state in the driest continent on Earth should have any of these tiny helmet orchids of the genus *Corysanthes*, which are lovers of cold, damp and shade. They exist here in the Mount Lofty Ranges near Adelaide only because they can complete their annual cycle in just 3-4 months during the cool and damp of Adelaide's winter wet-season.

In July and August 2009 I spent seven days surveying for *Corysanthes* species at hundreds of sites across the southern Mount Lofty Ranges which has the most suitable habitat. The sites were from as far north as the Barossa Valley to as far south as Hindmarsh Island at the mouth of the River Murray and covered many diverse habitats; from coastal sand-hills to mountain tops and included exotic pine plantations as well as native vegetation.
The surveys were funded by the Threatened Plant Action Group (TPAG) and the Australian Orchid Foundation (AOF) and were very successful as average to above average rain had fallen from May to the end of July. At least one new species of helmet orchid was found, other rare and poorly known species ie *C. dentata* and *C. expansa* were found in good numbers and taxonomic questions about the *Corysanthes diemenica* complex were answered.

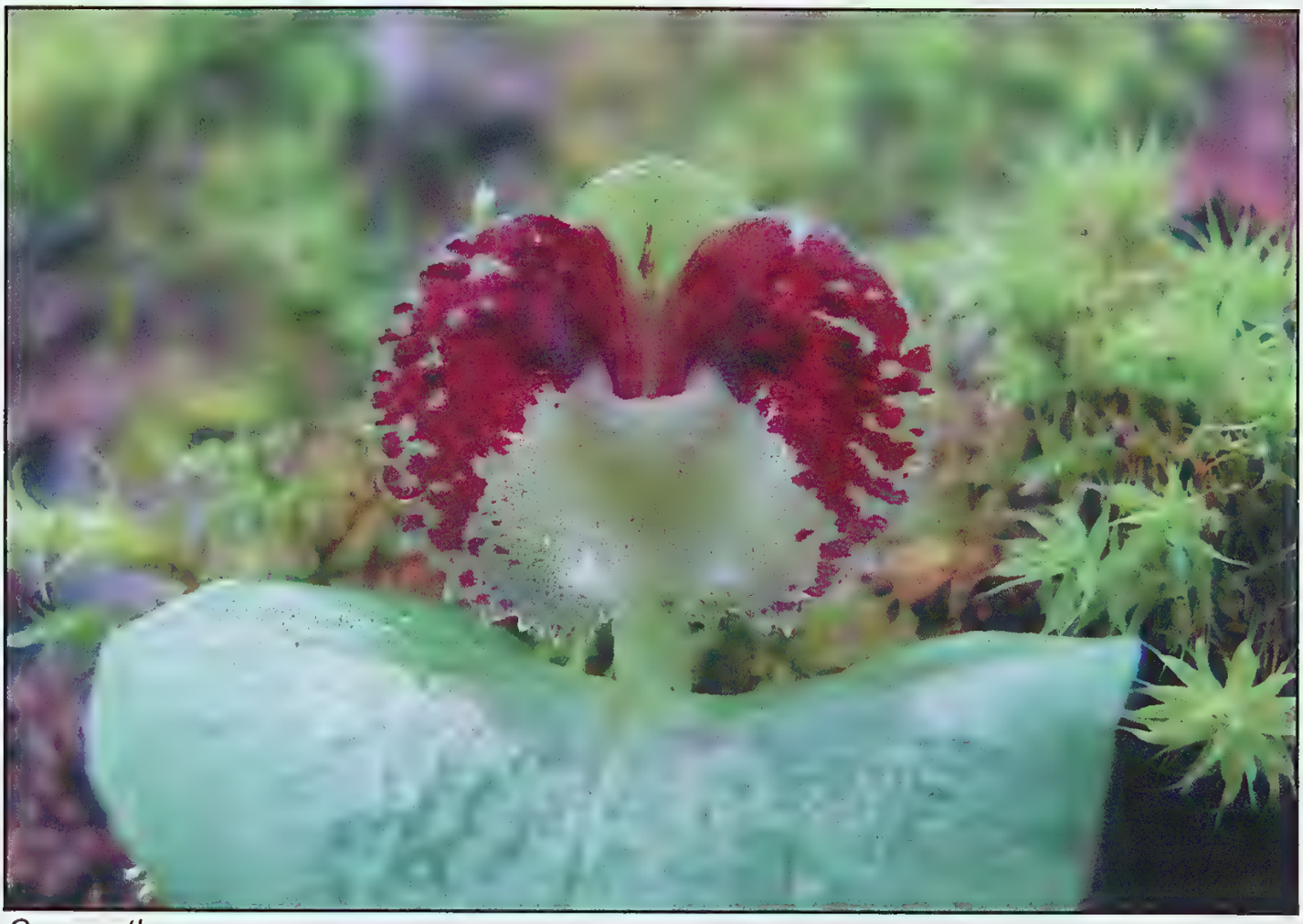
Biology of Corysanthes in South Australia
Corysanthes leaves appear in June, the buds already present as the single, orbicular, coin-sized leaf unfurls from the soil. They exist with the help of a soil fungus which through a mycorrhizal association with the orchids assists them in producing enough energy at a time when temperatures average only ten degrees in the cold mountain gullies favoured by many species.

Flowering begins two to five weeks after the leaves emerge and for some species is over within a few days. Occasional warm, windy winter days cause flowers to abort, so it is likely that helmet orchid species evolved in colder times, indeed a 'climate change' rise of two degrees may wipe them out.

Pollination:
The flowers are sappro-myophilous, meaning that they are pollinated by fungus gnats which are fooled into 'thinking' that the flowers are fungal fruiting bodies and enter to feed and lay eggs. Indeed the helmet orchids flower at a time when fungal fruiting bodies or toadstools are at their most frequent. Once the flowers are pollinated the sessile ovary develops a peduncle which elongates rapidly to 20 cm tall so that seed dispersal is improved.

Self pollination:
Because the growing season in South Australia is so brief self pollination is a good option. Several *Corysanthes* taxa in SA have self pollinated flowers which last only from one to five days. Self pollination is facultative, ie fungus gnats may enter the flowers during the brief flowering season but orchid pollinia will fall onto the stigma if not removed by gnats. All flowers will produce seed that way, and they do it quickly as there is no time to spare before dry conditions return. Seed capsules must dehisce and release seed within 2-4 weeks. Many plants don't make it as leaves dry out and the peduncle collapses before seed is mature. Helmet orchids are as close as we

Corysanthes despectans, with a ten cent coin.



Corysanthes expansa.

get to ephemeral orchids and in dry years very few plants are seen.

Flowering season: flowers of outcrossing species are long-lived while selfing species have short lived flowers. The flowering season is useful in separating species which flower at different times: *C. diemenicus* begins flowering in late June and finishes in early August, *C. Red-eyed ghost* begins flowering in late July, *C. despectans* in early August and *C. sp Fat dwarf* in mid August. The differing flowering periods help to restrict the possibility of hybrids, although these do occur.

Conclusions

***Corysanthes dilatata* is a synonym of *C. diemenica*!**

With the help of other Native Orchid Society (NOSSA) members we were able to see and photograph thousands of flowers of *C. diemenica* to study variation. It soon became obvious that even in a single population there were flowers which matched descriptions and published images of *C. diemenica, C. dilatata and C. grumula*. Only one conclusion could be reached, the earliest name, *Corysanthes diemenica* should apply to all.

***Corysanthes expansa* is a good species:**

Corysanthes expansa, (see image) sometimes regarded as an extreme form of *C. despectans* appears to be a good species as most of the hundreds of colonies of *C. despectans* seen belonged to the very stable and constant type form with its tiny tubular flowers, and vestigial dorsal sepal. *C. expansa* on the other hand was restricted to the better, deeper sands and its occurrence was predictable in dune hollows. *C. expansus* flowers are not tubular, differently coloured, the labellum flared and the dorsal sepal much larger.

There were occasional hybrids observed but as all South Australian helmet orchids produce hybrids this does not affect their validity as species.

There are other undescribed taxa

Corysanthes species Fat Dwarf, (see image) is a newly discovered dwarf helmet orchid with tiny greenish flowers and is a species of coastal headlands. Its flowers are still in tight bud when other helmet orchids nearby are in full flower. They may be locally dominant but apparently not noticed before because of their tiny size and short flowering season. They are so far recorded from Fleurieu and Yorke Peninsula but may occur all around the coast and on Kangaroo Island.

Other forms of *Corysanthes despectans* also appear worthy of some taxonomic status as they appear in pure-breeding colonies in several parts of South Australia, from Eyre Peninsula, Yorke Peninsula, Kangaroo Island and now for the first time in the Mount Lofty Ranges. One, *Corysanthes* sp Red-eyed dwarf (see image) which has largely colourless flowers, just 2-3 mm across with a single red Cyclopean eye has been recognised as a separate sub-species. Other forms of *C. despectans* include one with completely blood red flowers and another which has no floral segments and consists of a leaf with column.

***Corysanthes dentata*: likely hybrid origin:**

C. dentata was seen in good numbers during the survey but intergrades with the otherwise distinctive *C. incurva* and is so variable that it appears to be of hybrid origin, perhaps derived from crosses between *C. despectans* and both *C. diemenica* and *C. incurva*. This one will certainly need DNA studies.

Other helmet orchid hybrids:

All species of helmet orchid in South Australia have been observed to form hybrids.

Corysanthes x miscellus is a cross between the common *C. incurva* and *C. diemenica* and is locally common in pine plantations. Both *C. incurva* and *C. diemenica* also cross with *C. despectans* which in turn will

cross with *C. expansa*

Climate change and the predicted demise of helmet orchids

On August 15th 2009 temperatures across the Mount Lofty region were between 25 and 30 degrees Celsius and flowers of most *Corysanthes* collapsed in the strong, dry winds accompanied by raised dust, effectively ending this survey. The future for our helmet orchids therefore looks bleak.

A list of helmet orchids from the Adelaide area, excluding un named hybrid:

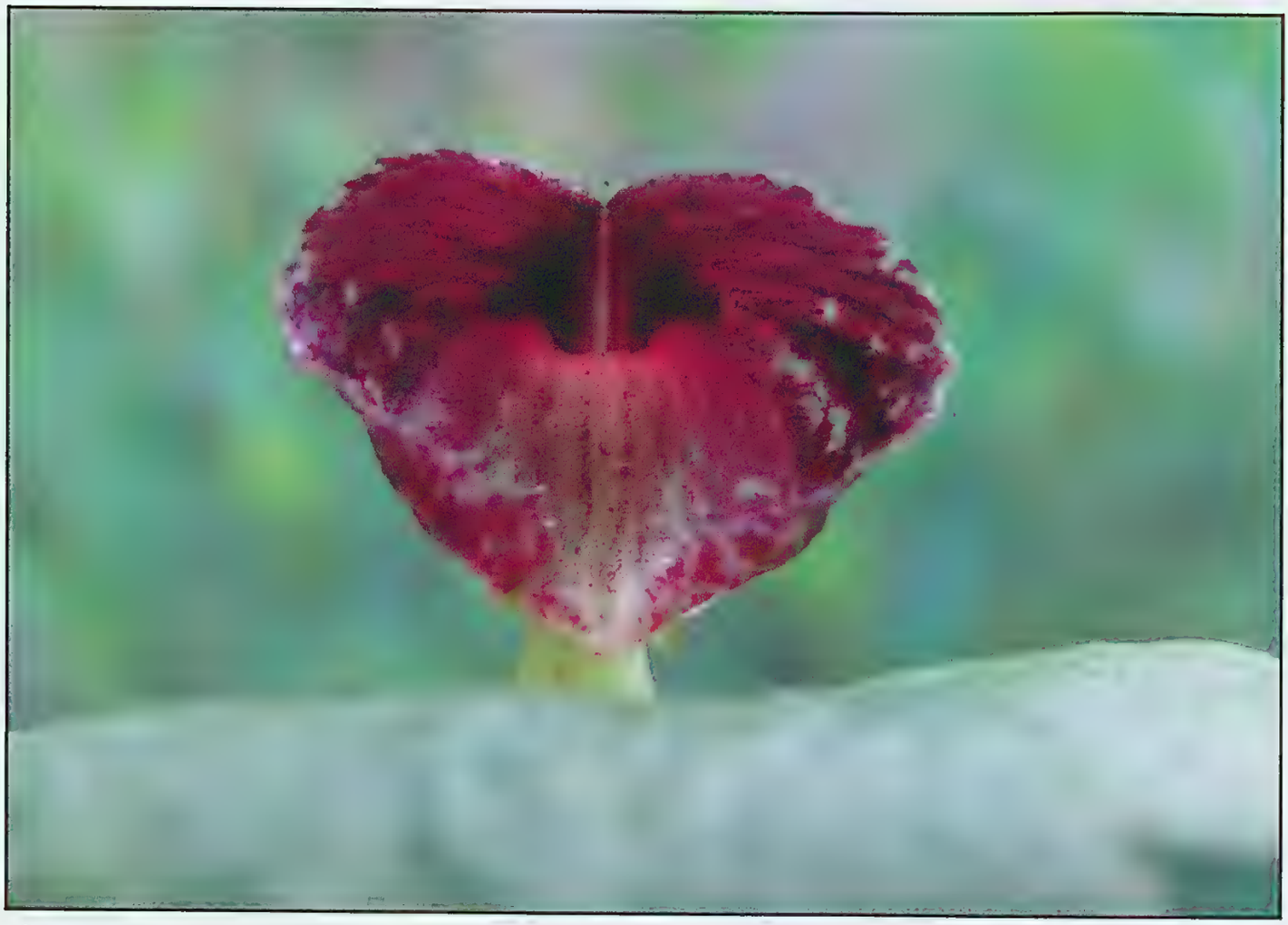
Corysanthes diemenica, C. despectans, C. dentata, C. expansa, C. incurva, C. x miscella, C. sp. Fat Dwarf, C. sp. Red-eyed ghost, *Anzybas aff. fordhamii* and *A. unguiculatus.* This is a remarkable number of helmet orchids for such a small area of Australia.

Acknowledgements:

Thanks to members of NOSSA who assisted with the project, particularly Cathy and Malcolm Houston and June Niejalke for providing images. Also thank you to Tim Jury and Joe Quarmby for initiating the project and part of the funding.

-oOo-

Corysanthes sp. 'Fat Dwarf'.



Corysanthes despectans 'Red'

Corysanthes 'Red Eye Ghost'

Corysanthes dentata hybrids.

That was the walk that was.

Alan W Stephenson
affine@tpg.com.au
President ANOS Illawarra Group

The title says it all as the walk conducted by ANOS Illawarra on November 1st was the best for several reasons. The weather was perfect, the orchids were present in number and variety and 23 people attended including five new members of ANOS Illawarra. Several members who had not participated in a walk for some time found the time and for some, who to an extent are still recovering from surgery were also keen walkers and photographers, although one showed just how slow a recovery can be, by demonstrating an excruciating method of lying down and getting up from photographing the terrestrial orchids available. It was not only ANOS Illawarra members attended but a few from ANOS Warringah and one who is also a member of ANOS Sydney. I would like to see this participation rate continue next year and the invitation is made to join us. A previous walk in the Royal National Park on August 30th this year had 18 walkers which at the time was considered very good but this walk set a standard which will be hard to match.

The group met at the foot of Macquarie Pass and travelled through Robertson to various sites in and around Penrose State Forest, different sites beyond Bundanoon and for the rest of the day the altitude was between 600 – 700 m, near Robertson. The first orchid site was under one of the many power lines which seem to traverse and cut through so many areas of bush and heath land to distribute the ever growing demand for electricity, which also has an ever increasing cost applied to every household user. I had visited this site en route to Canberra a few days earlier and was delighted to see a large number of *Diuris punctata* in bud and flower. One in particular caught my eye as it was an Alba form which I had not seen before, although later information indicated this plant is reasonably regular in its flowering habit and just the right tonic to start the day for experienced orchidophiles and novices alike. Unfortunately these days the term "clicking of cameras" does not seem correct as the digital photographic medium does not relay the same level of physical activity as did the rapidly replaced film types. After listening to a few comments from those not used to orchid photography I feel sure some of the camera retailers will get some business prior to or at Christmas, as some realised their equipment was not suited to the task and an investment in new equipment would be a priority. I certainly hope this happens as it will mean those people have been hooked by the orchid bug and we will have them in our grasp for some time. Apart from the two forms of *Diuris punctata* already mentioned, this first site also yielded the encapsulating beauty of *Microtis parviflora* and *Thelymitra pauciflora.* To those who Poo Poo the much maligned *Microtis*, I should mention the first terrestrial I ever found by myself was *M. unifolia* (so there) and from then on I was hooked.

The second site was only five minutes away and 11 vehicles formed a faster than normal funeral style procession. From three species and a variety, the next well tended location produced seven species and a natural hybrid and yes a few more individuals of *M. parviflora* just to keep the blood coursing through the veins. More plants of *Diuris punctata* with slightly darker flowers than previously seen, although some plants at the first location had begun to lose colour during their short time in full sunlight. Two extra species of *Thelymitra* were in flower and these were

T. carnea and spotted and plain coloured forms of *T. ixioides* plus the natural hybrid *T.* X *irregularis* (*T. carnea* x *T. ixioides*). One of my favourites (*D. sulphurea*) was also seen with glistening flowers and some excellent plants of *Calochilus robertsonii*, which varied from one open flower to three, something I had not experience before and I wondered if it was something relative to the altitude as on the coast many of our plants of *Cryptostylis erecta* consistently have three open flowers.

Site three again produced *D. punctata* but with flowers twice the size of both previous sites and a good horticultural form which would look good on a show bench if they could be legally obtained. Unfortunately this site is maintained by a local council and most plants within reach of a mower had suffered the fate of a single cut, as it does not take thousands of cuts to ruin a season of growth and I feel a strong (but diplomatic) letter is necessary to prevent this in future. I will not disclose this location even though it is known to many but readers will need to read between the lines to fully understand, as no further clues will be given.

As it was almost lunchtime the party proceeded to an area near the top of Macquarie Pass to finish the day. The areas we would visit to do this are in the main controlled by the Sydney Catchment Authority (SCA) and are listed as Special Access Areas and written permission is needed to enter, with the threat of an $11,000 fine for trespass beyond certain points. To reinforce their point the SCA have a sign every 200 m for approximately 15 km. As we sat on the road verge we were surrounded by orchids, mostly *Thelymitra* species but also *D. sulphurea* and as lunch stops go this proved most satisfactory. Just 500 m from the lunch stop the caravan again halted to inspect a large section of cleared roadside. This section along with most of the verge is well supplied with orchids but unfortunately the SCA will obliterate most of them in coming years due to an expansion of their above ground pipeline as this project will be declared under Part 3a of the NSW Planning Act no legal challenge is available under current legislation. In this area are several common species such as *C. paludosus, C. robertsonii, D. sulphurea* and the usual range of *Thelymitra* spp. but also an unnamed *Prasophyllum* sp. The *Prasophyllum* was originally discovered west of Nowra in 2001 and collected for classification in 2003 but currently sits among the 300 or so species awaiting classification. Plants vary from a port wine colour to a green (alba) form with numerous shades of red and brown in between and while apparently plentiful, I fear it may disappear from this site before species recognition is given, if indeed it is proved to be a new species. Plants vary in height but rarely exceed 60 cm.

ANOS Illawarra had walked this area about two years ago and had found about six *Pterostylis* plants growing low down on the bank of a creek/drain. At the time the plant was thought to be *Pterostylis* X *ingens* and although *Pterostylis nutans* would be a certainty to be nearby, no member of the party had seen the other parent, *P. falcata*. However (there is often a however), this year proved different as two flowering plants of *P. falcata* were within 50 cm of the hybrid plants. The day had become more significant as the beginning had produced an alba form of *D. punctata, Thel.* X *irregularis,* a few odd looking individuals of *Thelymitra* which are yet to be assessed and now another natural hybrid and one of its parents. Unfortunately I feel *P. nutans* might lie beyond those ominous signs and I am sure I am not willing to pay $11,000 to seek the truth, among these plants were flowers that had already finished flowering and it was suggested that perhaps these may be *P. nutans*.

Diuris punctata, alba form.

Pterostylis X *ingens*, (*P. nutans* x *P. falcata*).

Pterostylis falcata.

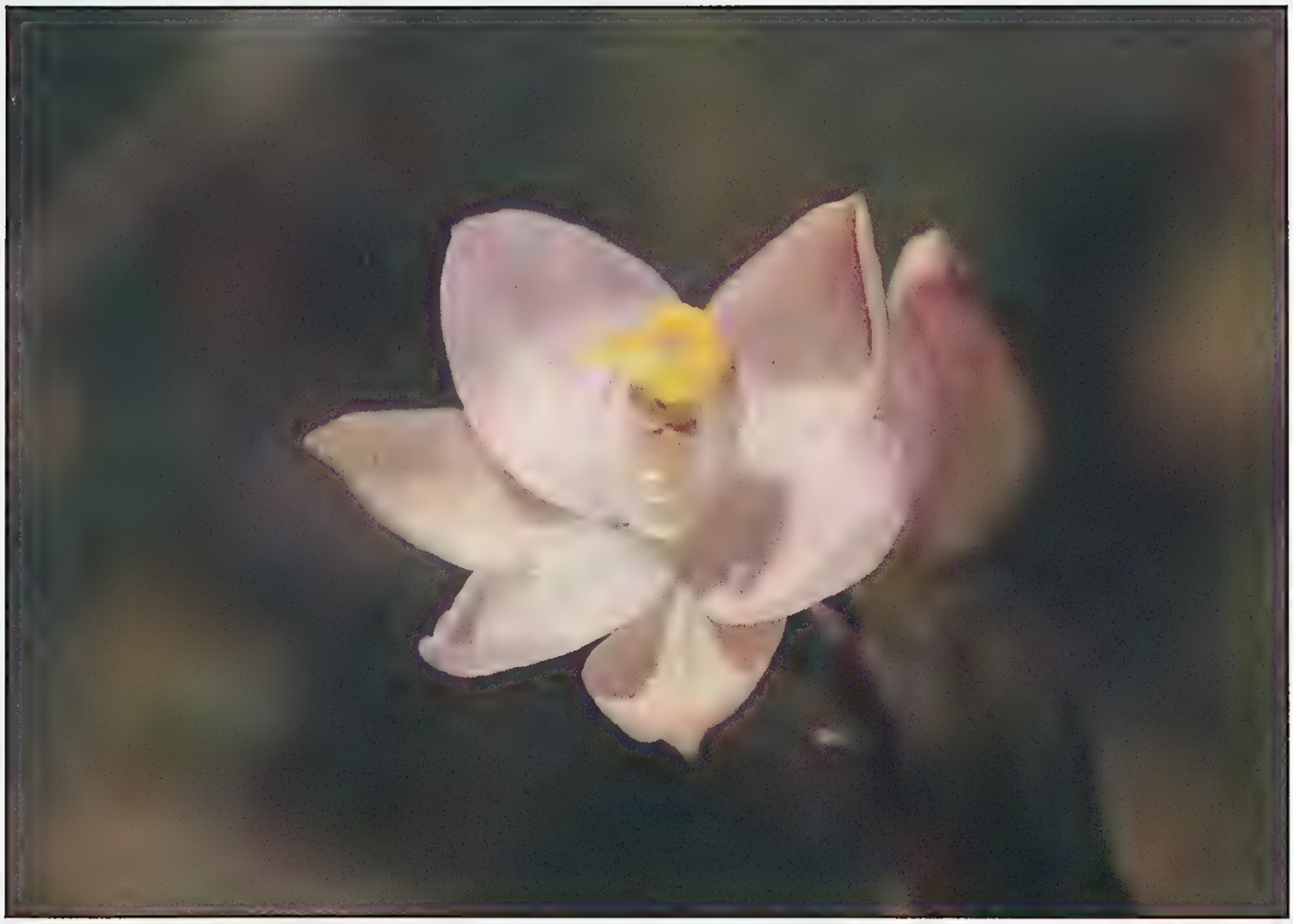
Photos Alan Stephenson

One kilometre beyond this site is a swamp which is home to numerous orchid species. These include *C. paludosus, C. robertsonii,* the unnamed *Prasophyllum*, which is in a much wetter habitat than those one kilometre distant, several *Corunastylis* species (in autumn) and the recently named and listed endemic species, *Thelymitra kangaloonica* with around 100 plants well distributed throughout the swamp.

At this point all but two members of the group had decided to call it a day but local resident Denis Wilson and I were keen to check another site closer to Robertson. This proved to be good with *Myrmechila* leaves, *Cryptostylis leptochila* in bud, *C. robertsonii, C. paludosus, Stegostyla moschata*, numerous plants of *Caleana major* (with insect) and another *Stegostyla* sp., which was initially thought to be *S. transitoria*, looked similar to *S. hildae* but eventually turned out to be *S. testacea.* I am a devotee of *C. major* and we encountered numerous plants. In profile it has a haughty look with its head lifted in a superior manner and although I have seen it pot grown I feel it is one orchid which looks ill at ease that way. No matter, the day was first class with at least 14 species and 2 natural hybrids in flower, two species in bud and at least two so far unexplained incidences, no accidents, no insect (or reptile) attacks and a group with good humour, all of whom went home very pleased with themselves leaving others to ponder how we are going to improve on perfection.

-oOo-

Thelymitra ixioides.



Thelymitra carnea.

Thelymitra X *irregularis*, (*T. carnea* x *T. ixioides*). Photos Alan Stephenson

All three orchids were found at the one site in the Penrose State Forest.

Bulahdelah Burning (Again)

By now many followers of orchid events would be aware of yet another fire on Alum Mt. at Bulahdelah. Am I imagining this or does Alum Mt. attract more fires than most other geographical landmarks in New South Wales (NSW)? Several of these fires have not eventuated during the normal summer bushfire season but seem to have occurred at random intervals during the year. The most recent incident was around the beginning of September 2009, although the precise date is unknown, as it was not considered to be sufficiently noteworthy to attract either state or national media attention at the time of occurrence.

I learned of it via the ABC news on the third weekend in September when well known orchid identity David Banks was interviewed about the nature and ramifications of the fire. Any interested orchid person would be aware the NSW Roads and Traffic Authority (RTA) have planned for several years to construct a road by-pass of Bulahdelah and from numerous options for the route, chose "Option E", which as luck (or fate) determined is the worst possible path for the by-pass. Option E in its initial form would have destroyed approximately 66% of all known plants of *Rhizanthella slateri*, a very large number of *Cryptostylis hunteriana* and also a large proportion of *Corybas dowlingii*. Up until recently I was horrified at the prospect of the destruction of these three species but as mentioned in a previous article, the RTA relented to public pressure and following good work by three scientists the situation for all three species was greatly improved. Intense study has been done and much information gathered regarding all species and the relocation operation planned for them by the RTA did not appear to be their death knell as was originally the case.

Unfortunately the recent fires have occurred in the main habitat (and type site) for *R. slateri* and also the area planned for their relocation. As the fire was out of season and probably a burning off operation (no confirmation to date) prior to the ongoing road construction, my assumption is that the area was being cleared to permit the safe continuation of RTA operations during summer. A letter has been written to the NSW Environment Minister requesting information regarding this and other concerns I have about the timing and precise location of the fire. This is not the first time a fire has broken out in this immediate area and the timing of it must cause some concern. My experiences with *R. slateri* have noted it can flower from its underground rhizome from early October to late March as these are the times when I have seen plants either in flower or almost in flower at Bulahdelah and two other sites near Jervis Bay (NSW). Again my assumption is that if plants were in or about to flower they would be destroyed for that season and possibly for a season or more to follow. I assume this, as my understanding is, all vegetation has been burned by the fire and the orchid will lack this support system and mycorrhiza produced by the vegetation is unlikely to be produced until regrowth occurs. This must also be the case with the planned relocation site.

So much information is unknown about the fire and principally whether it was a hot or cool fire and what effect either might have on the survival prospects of Australia's most unique orchid species. A hot fire can effect growth below ground by cooking orchid tubers but even a coolish fire out of season can have negative effects as it is designed to remove ground covering vegetation leaving tubers open to predation by birds and animals and erosion from wind and rain is also a possibility. There are many questions to be asked as I consider this to be a serious incident and certain authorities should have some questions asked of them. These are the NSW RTA, NSW Forestry and the Rural Fire Service. I cannot and do not make any accusations but the frequency of fire at this site and this particular incident, which has targeted the most environmentally sensitive

site in the area, cannot remain an unknown or be put in the too-hard basket.

Although fire retardant chemicals were not used to control or extinguish this fire, recent fires in Victoria saw large amounts of retardant used. I was initially concerned about the use of this chemical and its immediate and long term effect on terrestrial orchids, although that would not have been a concern to those using it or those whose homes and properties would have been protected from the intense and widespread fire which burned so much area over several weeks last summer. The retardant is a fertiliser based preparation and has been used for about 30 years. Examples of long term retardants are Phos-Chek D75 and Phos-Chek D75R. These are mostly ammonium, diammonium sulphate and ammonium phosphate with thickeners (guar gum) with corrosion inhibitors (for aircraft safety) and frequently a red pigment made from iron oxide is used to enable spraying teams to see the area sprayed. The short-term examples are; Ansul Silv-Ex, Angus ForExpan S, Fire Quench, 3M Firebreak and Phos-Chek WD-881. Short-term types are a combination of wetting agents and foaming chemicals mixed with water which allows easier surface penetration. Following evaporation of the water the chemical prevents re-ignition of vegetation until it is removed by rain or erosion.

Little research has been undertaken to determine the environmental effects of fire retardant use but current information indicates no significant effects on birds or mammals, however in Australia long-term fire retardants have been observed to cause effects on some species of native plants, leading to low level damage to new growth. The concentrated powder can cause minor respitory irritation to those workers who are may handle it. Water plants and animals are more sensitive to the effects of fire retardants and foams can be toxic to aquatic life and pilots try to avoid spraying water bodies.

I do not hold out much hope of a sympathetic response from the government as the RFS and Forestry are in the untouchable category and seem able to do no wrong and if a response from the Environment Minister of another state is an example, I would not be surprised to receive a letter containing the same brand of bureaucratic waffle, designed to keep letter writers in their place and my cynicism intact..

Alan W Stephenson
National Conservation Officer
Australasian Native Orchid Society (ANOS)

-oOo-

Images from the recent fire of the habtat of *Rhizanthella slateri*. Photos Malcolm Carroll

Additions to the Orchid Flora of Bougainville.

Paul Ormerod,
P.O. Box 8210, Cairns 4870,
Queensland.
Email: wsandave@bigpond.net.au

ABSTRACT: Eight species of orchids are added to the flora of Bougainville. Four of these are new records whilst the other four are described as new taxa, namely *Ceratostylis koniguruensis, C. loloruensis, Diplocaulobium pangunaense* and *Oberonia bougainvilleana*. Furthermore, five taxa are deleted from the flora of Bougainville.

The island of Bougainville is the largest island in the Solomon Archipelago. It is about 200 km long and 100 km wide. Mount Balbi (2745 m) is also the tallest mountain in the archipelago. The island is politically part of Papua New Guinea whilst the other islands in the archipelago form the nation of Solomon Islands. Despite its mountainous, jungle-clad terrain and wet climate, Bougainville has relatively few orchids (about 130 according to Lewis & Cribb 1991). The island of Guadalcanal in the Solomon Islands has about 175 species. The lower figure for Bougainville was explained by Lewis & Cribb (1991:11) as being due to a lack of collecting, ecological (cyclones, earthquakes, landslips and human) disturbance that impoverished available habitat and the limited altitudinal range.

Another factor that can be considered for the comparatively low species count of Bougainville is the geologically young age of the island and its volcanic origin. This is reflected in the low rate of endemicity, a misleading 1.5% (2 out of 130 species, 7 or 8 were introduced taxa) if one follows the account of Lewis & Cribb (1991) or about 8.5 % (11 out of 130 species) according to current information (sourced from Ormerod 1995, 1996a, 1996b, 2002, 2009, this paper; Schuiteman 1997; Thorne & Cribb 1984).

Aside from the four apparently endemic orchids described here, the other seven endemic taxa are *Calanthe pavairiensis* Ormerod, *Corybas solomonensis* van Royen, *Mediocalcar versteegii* J.J.Sm. subsp. *vulcanica* Schuiteman, *Paphiopedilum bougainvilleanum* Fowlie, *Robiquetia millarae* Ormerod, *Stigmatodactylus vulcanicus* (Schodde) Maekawa [records of this species from the Solomons are *S. croftianus* (Kores) Kores] and *Zeuxine bougainvilleana* Ormerod.

New Records and Species.

Bulbophyllum Thouars
About 39 species have been recorded as native to the Solomon Archipelago. However only 10 species of this large genus have been so far been accredited to Bougainville. Many more taxa can be expected from the island which now has 11 species.

Bulbophyllum pachyglossum Schltr., Rep. Sp. Nov. Regni Veg. 16:125, 1919.
TYPE: Papua New Guinea – Angriffshafen (now Vanimo) hinterland, *A. Kempter s.n.* (Holotype: B, destroyed).

Distribution: Papua New Guinea; Solomon Islands.
Specimen examined: Papua New Guinea – Bougainville, Kupei, near Kieta, cloudforest zone, October 1960, *K. McKillop in J.S. Womersley NGF 13396* (BRI).
Notes: Lewis & Cribb (1991) have illustrated the record from Kolombangara in the Solomon Islands. The Bougainville plant was identified by *Bulbophyllum* specialist Jaap Vermeulen.

Calanthe R.Br.
Six species are known from the Solomon Archipelago, with a single endemic (*C. pavairiensis* Ormerod) reported from Bougainville. Apart from the aforementioned endemic, *C. ventilabrum* Rchb.f. was the only other species reported from the island.

Calanthe triplicata (Willem.) Ames, Philipp. J. Sci., Bot. 2:326, 1907.
Basionym: *Orchis triplicata* Willem., in Usteri, Ann. Bot. 18:52, 1796.
LECTOTYPE: T. 52, f. 2 in Rumphius, Herb. Amboin. 6, 1750.

Distribution: India to Tahiti.
Specimen examined: Papua New Guinea – Bougainville, Pavairi, January 1967, *P.S. Lavarack & C.E. Ridsdale NGF 31027* (LAE).
Notes: This species represents only the third taxon of *Calanthe* to be recorded from Bougainville. It is likely however that *C. hololeuca* Rchb.f. (a widespread Pacific plant) will also be found on the island.

Ceratostylis Blume
Nearby New Guinea has about 70 species of *Ceratostylis* whilst only 2 taxa have been recorded from the Solomon Archipelago. Unfortunately the available material of this genus from the Solomon Archipelago is often flowerless or with poorly preserved or damaged flowers. I remain quite doubtful as to whether the 2 taxa (*C. longipes* Schltr. and *C. subulata* Blume) recorded by Lewis & Cribb (1991) actually occur in the archipelago. At least 4 taxa can be recognised among the available material, two of these are here described as new.

Ceratostylis koniguruensis Ormerod, *sp. nov.*
TYPE: Papua New Guinea – Bougainville, Buin, Koniguru, 900 m, 20 August 1930, *S.F. Kajewski 2129* (Holotype: BRI!).
Affinis C. longipes Schltr. *sed petalis floribus rhombicis (non ligulatis) et mentum brevioribus (2.0 vs. 2.5 mm) differt.*
"Common" epiphytic herb. Roots terete, slender, numerous. Stems erect, caespitose, terete, 13.0-17.5 cm long, 0.1-0.3 cm thick; basal 3.5 cm enclosed by thinly papery, red-brown sheaths. Leaves erect, linear-ligulate, acute, fleshy, sulcate, perhaps somewhat laterally compressed, 5.0-5.3 cm long, 0.15-0.30 cm thick. Inflorescence pseudoterminal, sessile, semiglobose, forming a capitulum composed of numerous papery sheaths and bracts to 1 cm long, to 1 cm wide. Pedicellate ovary clavate, pubescent, ca. 2 mm long. Flowers white, mentum and lower half of sepals externally pubescent. Dorsal sepal oblong, acute, 3 veined, 3 mm long, 1 mm wide. Lateral sepals oblong, subacute, 3 mm long, 1 mm wide, forming with the columnfoot a clavate, obtuse, 2 mm long mentum. Petals obliquely rhombic, acute, 3 mm long, 0.8 mm wide. Labellum oblong-oblanceolate, margins finely ciliolate, medially with 2 parallel, finely ciliolate keels, apex fleshy, ellipsoid, obtuse, 4.3 mm long, 1.2 mm wide. Column 2 mm long.

Distribution: Papua New Guinea (Bougainville).
Habitat: rainforest, 900 m.
Notes: This species is similar to the Papua New Guinean *C. longipes* Schltr. but it differs from the latter in having white (not yellowish white flowers with a reddish mentum and golden yellow lip apex) flowers, rhombic (not ligulate) petals and an oblong-oblanceolate (not ligulate-clawed with an oblong lamina) labellum.

Ceratostylis loloruensis Ormerod, *sp. nov.*
TYPE: Papua New Guinea – Bougainville, S rim of Lake Loloru crater, ca. 3.2 km N of Buin, 1525 m, 26 August 1964, *L. Craven & R. Schodde 335* (Holotype: BRI!; Isotypes: A!, CANB, G, K!, LAE, MEL!).
Synonym: *Ceratostylis longipes* auct. non Schltr.: Lewis & Cribb, Orch. Solomon Isl. & Boug.:123, 1991 p.p.
Affinis C. acutifolia Schltr. *sed sepalis floribus lacteiflavis vel flavis (non rubrobrunneis), brevioribus (4.0-4.5 vs. 5.5 mm), mentum clavatis (non oblongoideis),*
brevioribus (1.5-2.0 vs. 3.5 mm) et labello brevioribus (5-6 vs. 7.5 mm) differt.
Epiphytic herb. Roots terete, slender. Stems erect, caespitose, terete, 15.60-23.75 cm long, 0.100-0.125 cm thick; basal 7.5 cm of stem enclosed by 3 thinly papery sheaths. Leaves linear, acute, 11.25-15.60 cm long, 0.34-0.56 cm wide. Inflorescence pseudoterminal, sessile, forming a few-flowered capitulum, surrounded by papery sheaths to 8.75 mm long. Floral bracts oblong-lanceolate, acute 4.5-5.0 mm long. Pedicellate ovary subfusiform, lanuginose, 3.5-4.0 mm long. Flowers creamy-yellow to yellow, column cream, outside of mentum and basal quarter of sepals lanuginose. Dorsal sepal oblong-elliptic, acute, 3 veined, 4 mm long, 2 mm wide. Lateral sepals oblong-lanceolate, subacute, 3 veined, 4.0-4.5 mm long, 1.8-2.0 mm wide, forming with the columnfoot a clavate mentum 1.5-2.0 mm long. Petals rhombic to ovate-lanceolate, acute, with a single vein with two branches, 4 mm long, 1.25-1.50 mm wide. Labellum narrowly rhombic-oblanceolate, margins finely ciliolate, apex fleshy, subacute,

medially with two parallel, finely ciliolate keels, 5-6 mm long, 1.8-2.0 mm wide. Column 1.5-2.0 mm long.

Distribution: Papua New Guinea (Bougainville).
Specimen examined: Papua New Guinea – Bougainville, Lake Loloru, 1690 m, 7 February 1967, *P.S. Lavarack & C.E. Ridsdale NGF 31289* (BRI, K).
Habitat: stunted cloudforest with *Pandanus* (type); moss forest on exposed ridge; 1525-1690 m.
Notes: This species is not related to *C. longipes* Schltr. (a subulate-leaved plant), an entity so far endemic to eastern New Guinea. Instead it is related to those taxa with flat, narrow leaves such as *C. glabriflora* Schltr. and *C. acutifolia* Schltr. From the latter it differs in having flowers with creamy-yellow to yellow (not red-brown) sepals that are pubescent basally (not throughout) and shorter (4.0-4.5 vs. 5.5 mm), furthermore the mentum is clavate (not oblongoid) and shorter (1.5-2.0 vs. 3.5 mm), and the labellum is also shorter (5-6 vs. 7.5 mm).
Ceratostylis glabriflora (also endemic to eastern New Guinea) differs from *C. loloruensis* in its flowers having longer (7 vs. 4.0-4.5 mm), reddish (not creamy-yellow to yellow), glabrous (not basally pubescent) sepals and a unique medially foveate (or shallowly saccate) labellum.

Diplocaulobium (Rchb.f.) Krzl.
Eight species have so far been recorded from the Solomon Archipelago, of which three are considered endemic. Judging from material preserved at Kew and Canberra there are likely to be ten species in the islands, of which eight may be endemic. Bougainville has about six species, including three possibly endemic taxa, two of which have been misidentified in the literature [one as *D. iboense* (Schltr.) A.D. Hawkes (Ormerod 1995); the other as *D. nitidissimum* (Rchb.f.) Krzl. (Lewis & Cribb 1991)]. The taxon described below belongs to the *"Goniobulbon"* group and is only the second species of this relationship [the other is *D. cyclobulbon* (Schltr.) A.D. Hawkes] to be reported from the Solomon Archipelago.

Diplocaulobium pangunaense Ormerod, *sp. nov.*
TYPE: Papua New Guinea – Bougainville, Panguna Mine area, 1971, *coll. & comm.. Cannon s.n., cult. B. Gray D22* (Holotype: BRI!, spirit).
Affinis D. tropidophorum (Schltr.) A.D. Hawkes *sed foliis brevioribus (2.2-4.3 vs. 4.5-7.5 cm) et carinis labello ad medio uniconstrictis (non triconstrictis vel triundulatis) differt.*
Epiphytic herb. Rhizome short, terete, creeping, 1 mm thick; internodes 1.0-1.5 mm long. Pseudobulbs obliquely erect, cylindric-fusiform, shallowly sulcate to hexangulate, slightly curved, unifoliate, 12-25 mm long, 3-5 mm thick, to 3mm apart. Leaf erect, ligulate, apex minutely bidentate, thinly coriaceous, 22-43 mm long, 4-6 mm wide, base shortly contracted for about 3 mm. Inflorescence pseudoterminal, 1-flowered; peduncle 7-9 mm long; peduncular sheath or spathe oblong, 6-9 mm long. Pedicellate ovary terete but the ovary triquetrous with 3 narrow wings, in total 25 mm long. Flowers with white tepals, yellow in the apical thirds, lip white with yellow keels. Dorsal sepal ovate basally, thence ligulate, acute 3-nerved, 12-15 mm long, 3 mm wide. Lateral sepals obliquely ligulate-lanceolate, acute, 3-nerved, 12-15 mm long, 4-5 mm wide, forming with the columnfoot a conical, obtuse, 4-5 mm long mentum. Petals linear-oblanceolate, acute, 1-nerved, 12-15 mm long, 1.0-1.5 mm wide. Labellum weakly trilobed, oblong-subpandurate, acute, to 10 mm long, 2.5-4.0 mm wide; hypochile 5 mm long, 4 mm wide; epichile 5 mm long, base 2.5 mm wide, middle 3 mm wide; keels initially appearing as two on the hypochile, thence constricted once near the hypochile apex, becoming thinner and more undulate on the epichile with an evident medial keel. Column semiterete, ca. 1 mm long.

Distribution: Papua New Guinea (Bougainville).
Notes: This species appears to be most similar to *D. tropidophorum* (Schltr.) A.D. Hawkes but it differs from that in having a much shorter (not elongate) rhizome, shorter (22-43 vs. 45-75 mm) leaves, larger (sepals 12-15 vs. 10 mm) flowers and a labellum in which the keels have a single main constriction (not three constrictions or waves) medially. Another similar species is *D. jadunae* (Schltr.) A.D. Hawkes but it has much shorter (8-13 vs. 12-25 mm) pseudobulbs, shorter (13-18 vs. 22-

43 mm) leaves, flowers with red-margined (not white) sidelobes and keels which terminate about halfway (vs. continuing to apex) on the epichile.
The holotype of this species is represented by a plant with one flower. The other loose flowers preserved with it were collected at different times and should be regarded as paratype material.

Oberonia Lindl.
Seven species were recorded from the Solomon Archipelago by Lewis & Cribb (1991), of which two were unidentified due to a lack of flowers. The taxon described below is the first endemic entity to be recorded from the islands.

Oberonia bougainvilleana Ormerod, *sp. nov.*
TYPE: Papua New Guinea – Bougainville, Lake Loloru, 1525 m, 6 February 1967, *P.S. Lavarack & C.E. Ridsdale NGF 31328* (Holotype: K!).
Synonym: *Oberonia djamuensis* auct. non Schltr.: Lewis & Cribb, Orch. Solomon Isl. & Boug.:106, 1991.
Affinis O. djamuensis Schltr. *sed foliis longioribus (4.2-28.3 vs. 7-10 cm), inflorescentiis longioribus (13.4-17.2 vs. 7 cm) et ovario pedicellatis triquetris (non cylindraceis) differt.*
Epiphytic herb. Stems pendulous, gently flexuous, rooting at base, laxly 7-leaved, 22.2-30.7 cm long, 0.25 cm thick. Leaves obliquely lanceolate to linear-ligulate, acute, medium green, free part 4.2-28.3 cm long, 0.7-1.7 wide. Inflorescence terminal, 13.4-17.2 cm long; peduncle 1.9-2.0 cm long; rachis densely spirally many-flowered, toward apex flowers separated into verticils 0.4-0.5 cm apart, 12.5-15.2 cm long; floral bracts lanceolate, acute, margin irregularly erose, dorsally carinate, 2.8 mm long, 0.95 mm wide. Pedicellate ovary triquetrous, 2.9 mm long. Flowers brown. Dorsal sepal broadly elliptic, obtuse, 1.8 mm long, 1.2 mm wide. Lateral sepals obliquely ovate-elliptic, subacute, 1.5 mm long, 1.2 mm wide. Petals oblong to elliptic, acute, 1.85 mm long, 0.95 mm wide. Labellum obcordate-cuneate, apex bilobed with subquadrate, rounded lobules, in total 2.3 mm long, 2.3 mm wide, ca. 1.3 mm wide above base. Column semiterete, ca. 0.5 mm long.
Distribution: Papua New Guinea (Bougainville).
Specimens examined: Papua New Guinea – Bougainville, Pavairi, 550 m, January 1967, *C.E. Ridsdale & P.S. Lavarack NGF 31132* (LAE); ridge behind Kapikavi, 1005 m, 13 February 1967, *C.E. Ridsdale & P.S. Lavarack NGF 31588* (K).
Habitat: rainforest, 550-1525 m.
Notes: *Oberonia bougainvilleana* closely resembles *O. djamuensis* Schltr. from Papua New Guinea but it is a much larger plant with longer (4.2-28.3 vs. 7-10 cm) leaves, a longer (13.4-17.2 vs. 7 cm) inflorescence with flowers for the most part densely (not in lax verticils 5-7 mm apart throughout) arranged, a triquetrous, winged (not cylindric, unwinged) pedicellate ovary and a relatively smaller (2.3 x 2.3 vs. 3.0 x 3.2 mm) labellum.

Phreatia Lindl.
Nine species are recorded from the Solomon Archipelago, whilst only three of these are so far known from Bougainville. It should be noted that Carr (1934) has also recorded *P. brachystachys* Schltr. from Bougainville, based on Waterhouse 828 (possibly in the SING spirit collection). This latter record was not mentioned by Lewis & Cribb (1991), perhaps because they could not find the source material. I expect that at least three or four more *Phreatia* species will be recorded from the Solomon Archipelago judging from herbarium material seen in BRI, BSIP and LAE.

Phreatia elongata Schltr., Rep. Sp. Nov. Regni Veg., Beih. 1:933, 1913.
TYPES: Papua New Guinea – Gati Mountain, 600 m, December 1907, *R. Schlechter 16987* (Syntype: B, destroyed); Finisterre Range, 1200 m, September 1908, *R. Schlechter 18243* (Syntype: B, destroyed).

Distribution: Indonesia (Papua); Papua New Guinea; Solomon Islands.
Specimen examined: Papua New Guinea – Bougainville, Lake Loloru, 1525 m, 7 February 1967, *P.S. Lavarack & C.E. Ridsdale NGF 31378* (LAE).
Notes: Since this species was already recorded from the Solomon Islands by Lewis & Cribb (1991), the record from Bougainville

was to be expected.

Phreatia scaphioglossa Schltr., in Schum. & Laut., Fl. Deutsch. Schutzg. Suds., Nachtr. 2: 192, 1905.
TYPE: Papua New Guinea – New Ireland, near Punam, 600 m, July 1902, *R. Schlechter 14648* (Holotype: B, destroyed).

Distribution: Papua New Guinea.
Specimen examined: Papua New Guinea – Bougainville, Kapikavi, 885 m, 13 February 1967, *C.E. Ridsdale & P.S. Lavarack NGF 31606* (BRI).
Notes: This species was already listed by Thorne & Cribb (1984), but was overlooked in Lewis & Cribb (1991). The plant reminds one somewhat of *Sarcochilus falcatus* R.Br. in habit. The flowers have a characteristic clawed labellum with a broad subreniform-triangular lamina that has an emarginate-bilobed apex.

Excluded Records.
Ceratostylis longipes Schltr.: Lewis & Cribb 1991:123.
Notes: As noted above, Bougainville records have been referred to the new taxon *C. loloruensis*. It is also doubtful if the species occurs in the Solomon Islands.

Dendrobium hymenocentrum Schltr.: Lewis & Cribb 1991:200.
Notes: The Bougainville record is based on *Millar & Vandenberg NGF 48504* (BRI!, K!). The specimen proves to be *D. goldfinchii* F.Muell., a common species in the Solomon Archipelago.
Diplocaulobium iboense (Schltr.) A.D. Hawkes: Ormerod 1995:37.
Notes: The record for Bougainville is based on a sterile fragment of *Schodde & Craven 3881* (LAE). However flowering material of this number in CANB shows the plant to be very similar in its habit and flowers to *D. ouhinnae* (Schltr.) Krzl. of New Caledonia and Vanuatu. A new taxon may be at hand but further study is needed.

Oberonia djamuensis Schltr.: Lewis & Cribb 1991:106.
Notes: As noted above, records of this plant from Bougainville have been referred to the new taxon *O. bougainvilleana*.

Robiquetia gracilistipes (Schltr.) J.J.Sm.: Lewis & Cribb 1991:289.
Notes: The record for Bougainville is based on *Millar NGF 38415* (K!), this collection is now the type number of *R. millarae* Ormerod (Ormerod 2009).

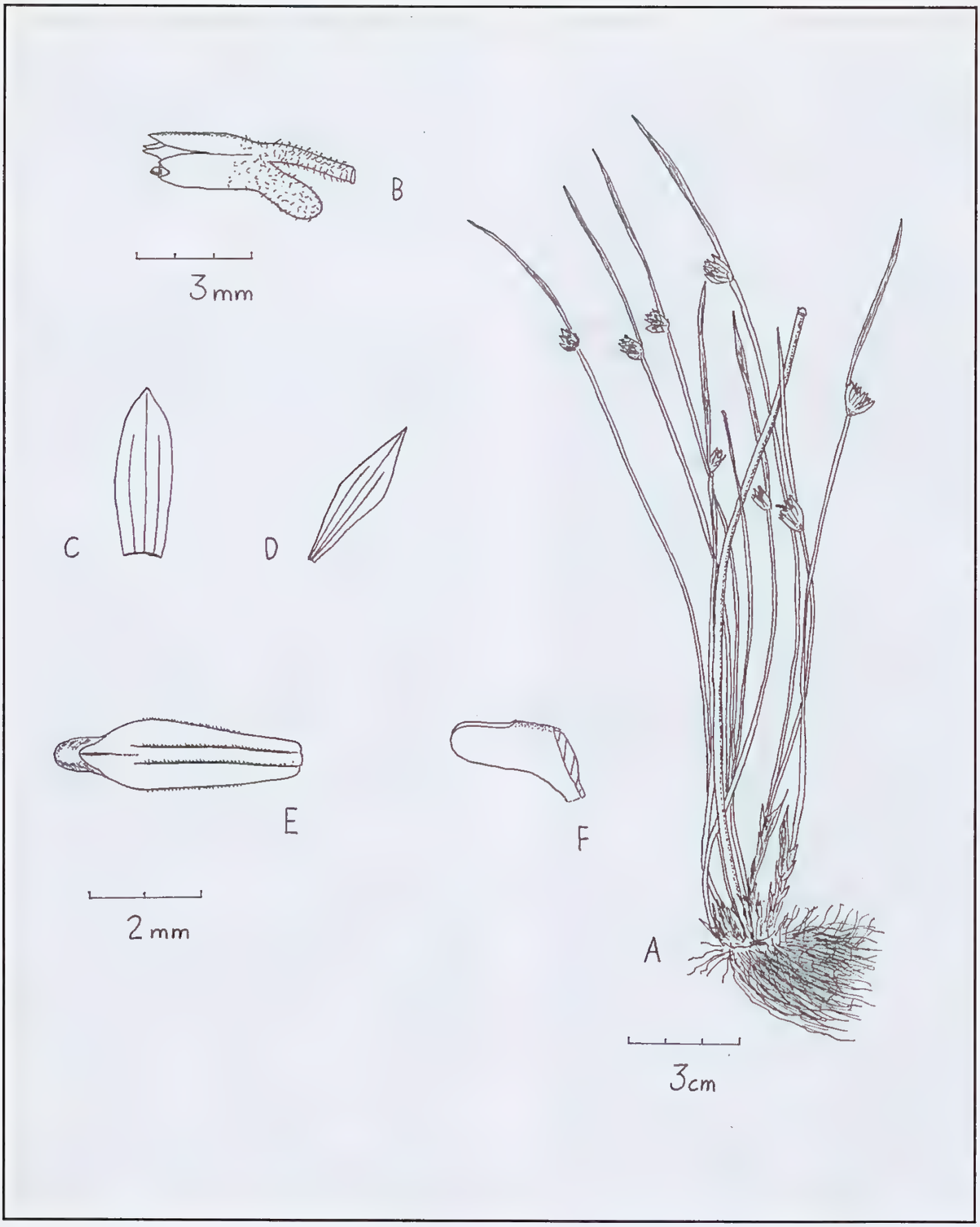
Acknowledgements.

I wish to thank Geoff Stocker and Bruce Gray for material of *Diplocaulobium pangunaense*. Wayne Harris kindly allowed consultation of *Diplocaulobium* material he had on loan from CANB. The help and hospitality of herbarium and library staff at BRI, BSIP, HUH (A, AMES, GH), K, LAE and MEL was also appreciated during my visits.

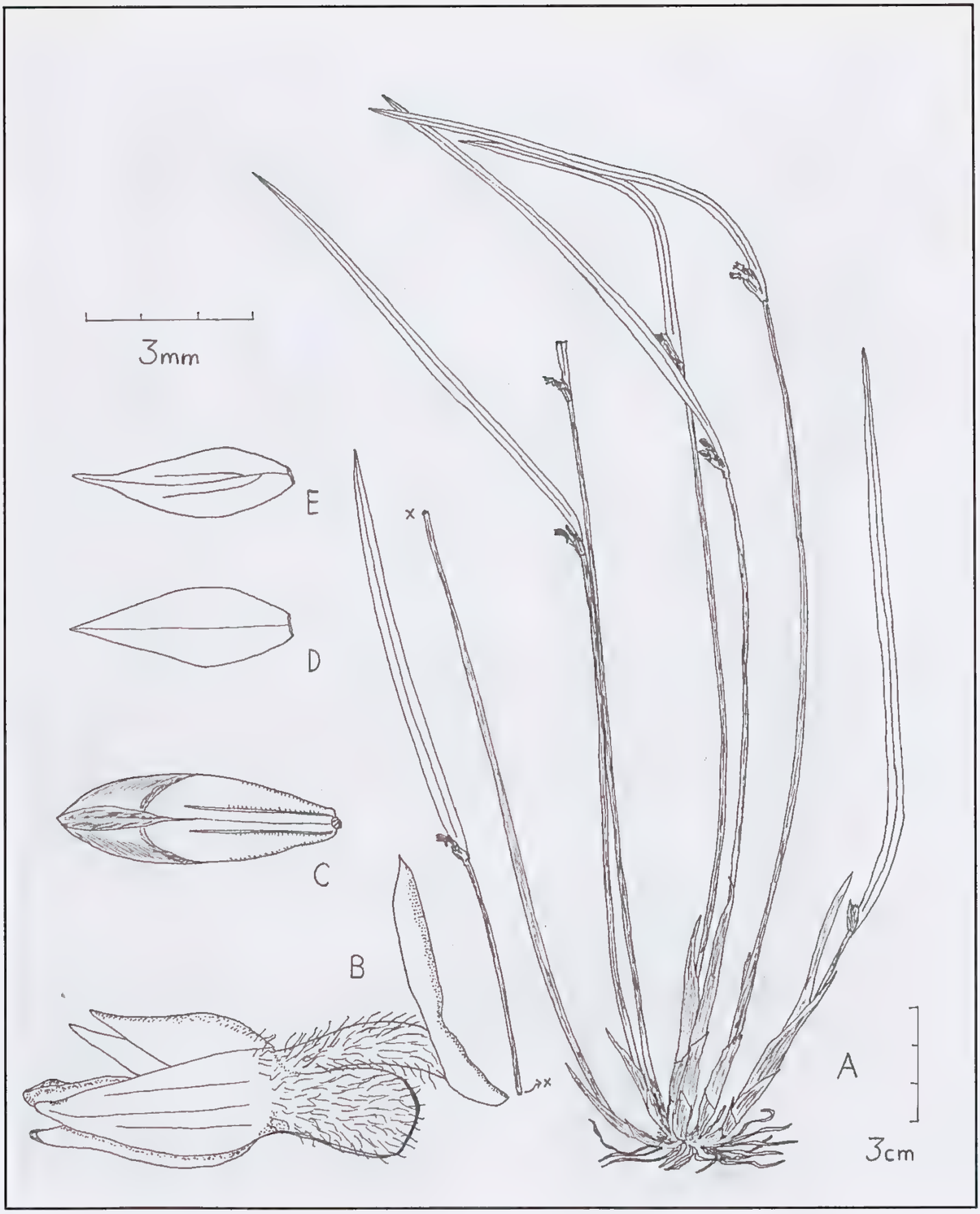
Literature Cited.

Carr, C.E. 1934. On a collection of orchids from the Solomon Islands. Bull. Misc. Inf. Kew: 375-383.
Lewis, B.A. & Cribb, P.J. 1991. Orchids of the Solomon Islands and Bougainville. Royal Botanic Gardens, Kew.
Ormerod, P. 1995. Complementary Studies of Solomon Archipelago Orchids. Austral. Orch. Review 60, 2:35-39.
Ormerod, P. 1996a. Notes on the Orchids of New Guinea and the Pacific 2. Austral. Orch. Review 61, 5:39-42.
Ormerod, P. 1996b. Notes on the Orchids of New Guinea and the Pacific 3. Austral. Orch. Review 61, 6:37-39.
Ormerod, P. 2002. Taxonomic changes in Goodyerinae (Orchidaceae: Orchidoideae). Lindleyana 17, 4:189-238.
Ormerod, P. 2009. A New *Robiquetia* from Bougainville. Orchadian 16, 3:126-128.
Schuiteman, A. 1997. Revision of the genus *Mediocalcar* (Orchidaceae). Orchid Monographs 8:21-77, fig. 8-28.
Thorne, A. & Cribb, P.J. 1984. Orchids of the Solomon Islands and Bougainville. A Preliminary Checklist. Royal Botanic Gardens, Kew.

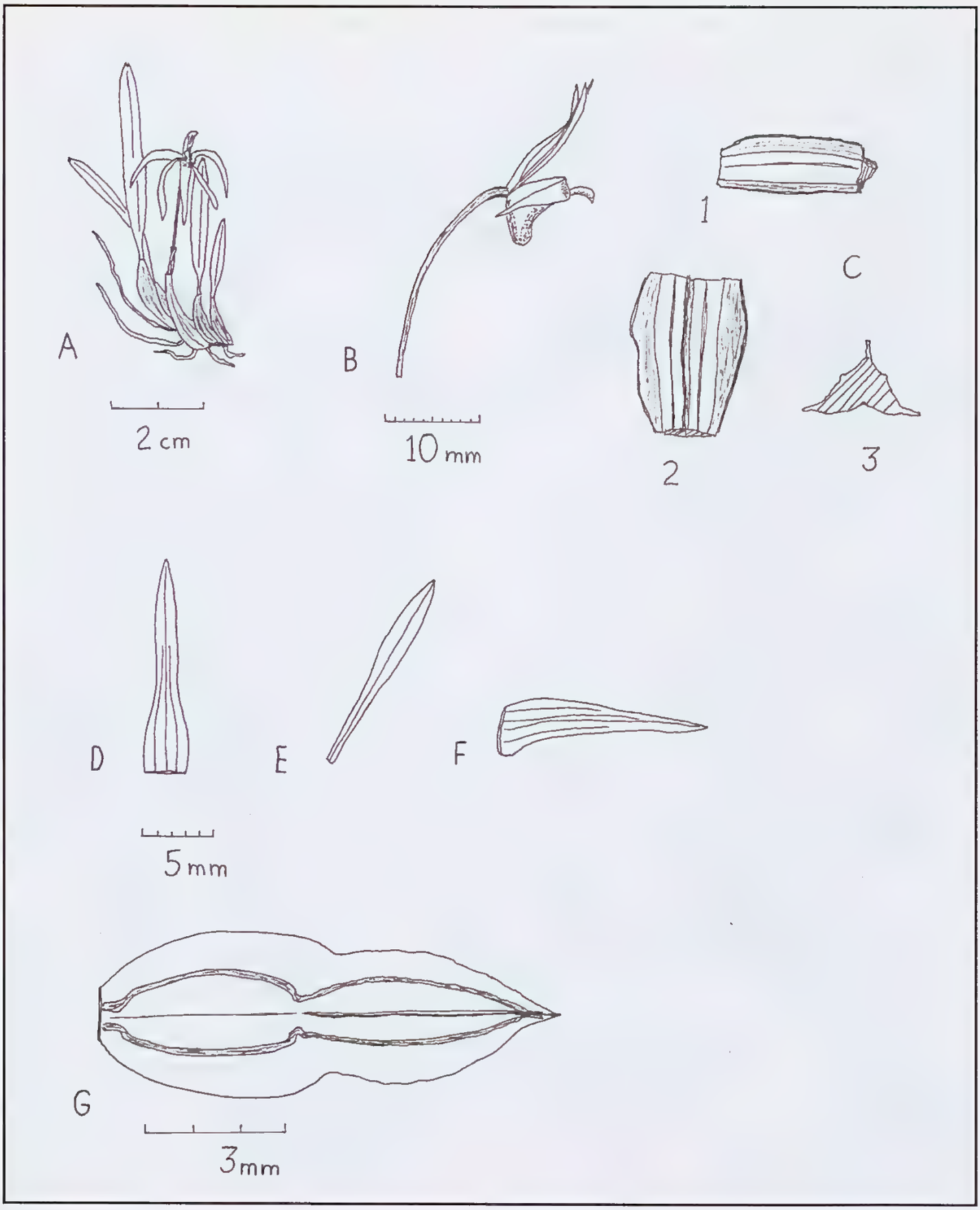
-oOo-



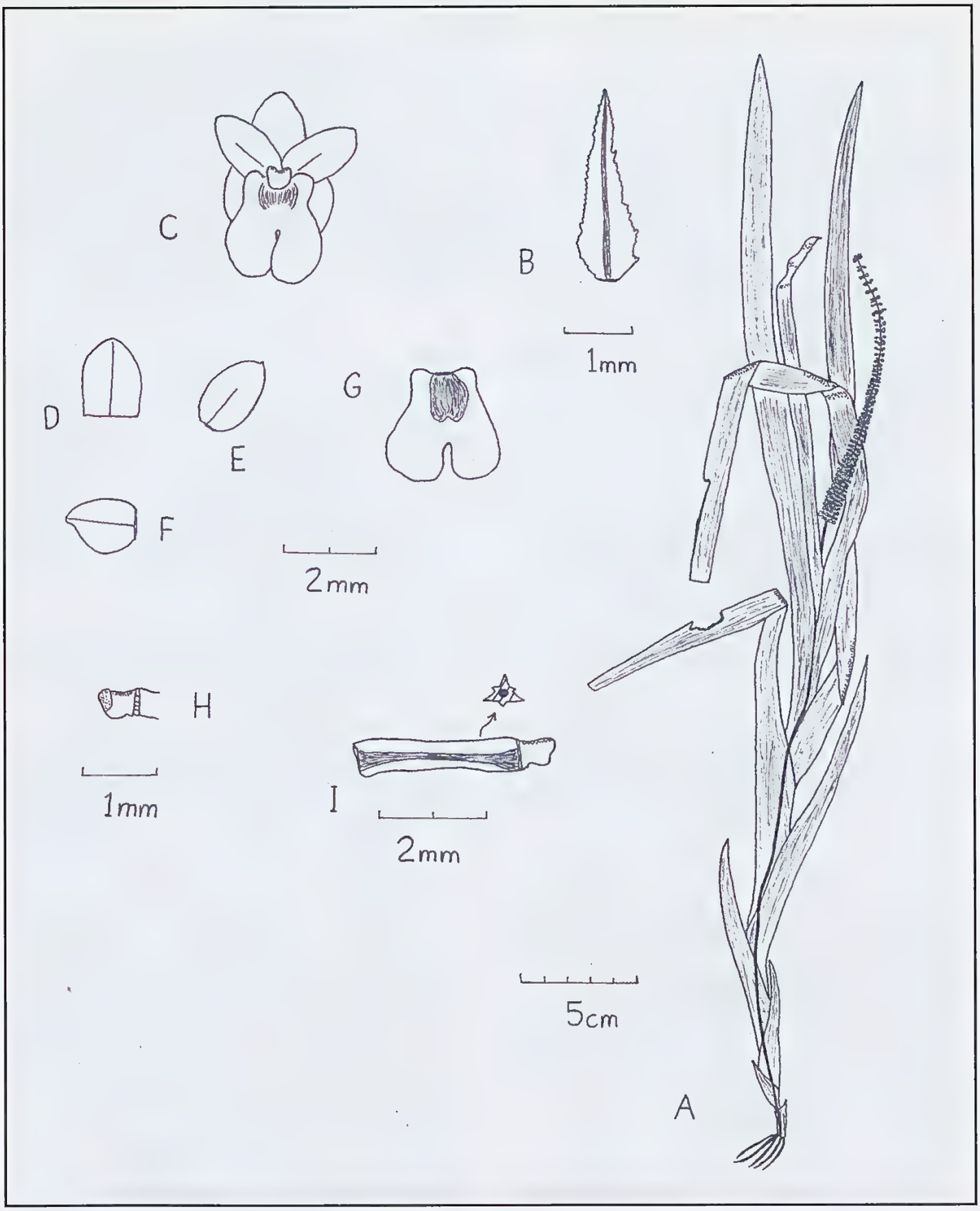
Ceratostylis koniguruensis - A. plant; B. flower; C. dorsal sepal; D. petal; E. labellum; F. column. A, B and C-F to respective scales. Drawn from holotype.



Ceratostylis loloruensis - A. plant; B. flower and floral bract; C. labellum; D, E. petals. A and B-E to respective scales. BE from K isotype, rest from holotype.



Diplocaulobium pangunaense - A. plant; B. flower; C. ovary (1.lateral view; 2. dorsal view; 3. cross-section); D. dorsal sepal; E. petal; F. petal; F. lateral sepal; G. labellum. A, B, C-F and G to respective scales. C not to scale. Drawn from holotype.



Oberonia bougainvilleana - A. plant; B. floral bract; C. flower; D. dorsal sepal; E. petal; F. lateral sepal; G labellum; H. column; I. column and pedicellate ovary (cross-section of ovary arrowed). A, B, C-G, H and I to respective scales. Drawn from holotype.

The Native Orchid Society of Toowoomba Inc. 40 Years.

2009 has been a great year of celebrations for the Native orchid Society of Toowoomba Inc. In a previous report on the history of NOSTI., the club was formed in July 1969. Much planning got underway as July quickly approached. It was decided to celebrate with a dinner, inviting many guests and associates to attend on July 18th. The 'Diamond' function room at the Toowoomba Golf Club was booked to cater for some 80 guests, including the Toowoomba Regional Council Mayor, Councillor Peter Taylor and Mrs Rosemary Taylor. Other invited guests included Ted and Barbara Gregory, whom many orchid growers knew over the years, of Ted's keen interest in breeding our wonderful orchids.

As proceedings commenced, the evening was chaired by a local identity and member of NOSTI., Edwin Dean, who had the 'nack' of using his jokes at various times to entertain the guests. Edwin's wife, Lesley, who lectured our members, along with Edwin, in the skill of Floral Art, also supplied the flower arrangements placed in the centre on each of the large meal tables for the guests to admire. Following the meal, prepared by the Golf Club catering staff, it was time for the more serious business, having the Mayor formally expressing congratulations to the NOSTI., for a fine effort of achievement. The cutting of the Anniversary cake was performed by Life Member, Bev Cummings and President Nev Rosenberger.

Not to be outdone, our long standing friend, Ted Gregory, had his say congratulating one and all. But, Surprise! Surprise!, it was time to bestow upon two members of the executive Life Membership. Under strict secrecy, it was organised that at the 40th Anniversary Dinner, plagues and Life Membership badges were presented to the President, Nev Rosenberger and Secretary, Josie Wright by the Mayor.

Then before the evenings' end celebrations continued, it was time to draw the rolling raffle, rewarding the many guests with various prizes. During this time, local historian, Peter Cullen, told his 'hair raising stories', of the ghosts and gangsters in Toowoomba's past history. It was indeed a gala event enjoyed by all.

Last but not least, the annual Spring Show was stages on September 18th to 22nd. Again the magnificent display of native orchid blooms, filled the shed at the Milne Bay Military Museum, during the Toowoomba carnival of Flowers. In spite of the pre-show adverse weather conditions, the display of orchids was wonderful, attracting many visitors.

The Grand Champion orchid, judged by the ANOS accredited judges, went to *Dockrillia banksii*, which also received Champion Australian Species and Champion Specimen. The plant was owned by Craig Ritchie. The judges also awarded the plant an, Award of Cultural Commendation, gaining 82 points, by the ANOS judges. There were estimated around 450 flowers.

The year will end with the NOSTI's Sarcochilus Festival and Show in October and the Christmas Celebrations early in December. All those readers who read and took interest in NOSTI's Anniversary Celebration year, I sincerely thank you for your interest.

Athol Rosenberg
Show Secretary
Email: athnan@iprimus.com.au

-oOo-

The cutting of the Anniversary cake was performed by Life Member, Bev Cummings and President Nev Rosenberger.

Life Membership plaques and name badges were presented to the President, Nev Rosenberger and Secretary, Josie Wright by the Mayor, Councillor Peter Taylor.

Reserve Champion, *Phaius tankervilliae* 'Snow Sheen'.
Owners Kev and Barbara Marsh.

Champion Australasian Hybrid Orchid. *Dockrillia linguiformis* x (*fuliginoas* x *racemosa*).
Owners Don and Sonia Hosking.

DIRECTORY OF A.N.O.S. GROUPS (& Associated Societies)

NEW SOUTH WALES

- **ANOS Central Coast**, P.O. Box 3010, Erina 2250. ☎(02) 4343-1809. Meetings 8pm, 2nd Wed. each month. Narara Community Centre, 2 Pandala Road, Narara. 2250
- **ANOS Far North Coast**, P.O. Box 949, Ballina 2478. ☎(02) 6686-6303. Meetings 7.30pm, 3rd Fri. each month. C.W.A. Room, River Street, Ballina.
- **ANOS Illawarra**, 2 Wiford St, Corrimal, 2518. ☎(02) 4284-8308. Meetings 7pm, 2nd Tue. each month. Figtree Community Hall, Figtree Park, Figtree.(next to Westfield Figtree Shopping Centre)
- **ANOS Macarthur & District**, 43 Strickland Cres, Ashcroft, 2168. ☎(02) 4626-1825. Meetings 8pm, 3rd Thur. each month. Narellan Community Hall, Queen St., Narellan.
- **ANOS Mid-North Coast**, 69 The Lakes Way, Forster 2428. ☎(02) 6554-9733. Meetings 12 noon, last Sunday each month followes by BBQ. (Held at Taree or Wauchope - phone Secretary for details).
- **ANOS Newcastle**, P.O. Box 4021, Rathmines 2283. ☎(02) 4975-3729. Meetings 7.30pm, 4th Thur. each month. John Young Community Hall, Thomas St, Cardiff.
- **ANOS Sydney**, 22 Rabaul Ave, Whalan. ☎(02) 9624-1768. Meetings 8pm, 3rd Fri. each month. Senior Citizens Hall, Baulkham Hills Community Centre (off Conie Ave.) Baulkham Hills.
- **ANOS Warringah**, P.O. Box 421, Forestville 2087. ☎(02) 9416-4306. Meetings 8pm, 3rd Tue. each month. Community Hall, Starkey St., Forestville.

QUEENSLAND

- **ANOS Beenleigh**, PO Box 1130 Beenleigh QLD, 4207. ☎ (07) 3841 3330. Meetings 7.30 1st Thursday each month Showground Hall, James St. Beenleigh.
- **ANOS Gold Coast**, P.O. Box 472, Biggera Waters Qld 4126. Meetings 1.30pm on the last Sunday of the month. Southport Community Centre, Lawson St, Southport.
- **ANOS Kabi**, PO Box 424, Aspley 4034. ☎ (07) 3359-5752 Meetings 7.30pm, 2nd Tue. each month (except Jan.). Bald Hills Memorial Hall, 2126 Gympie Rd., Bald Hills.
- **ANOS Mackay & Dist.**, PO Box 138, Koumala, 4738. ☎(07) 4950-1065. Meetings 7.30pm, 2nd Thursday of each month at the Andergrove Community Centre, Celeber Drive, Andergrove.
- **ANOS Townsville**, 92 Curie St, Wulguru, 4811. ☎(07) 4778-4311. Meetings 8pm, 1st Tue. each month. Townsville Orchid Society Hall, Pioneer Park (opp. Willows Shopping Centre), Thuringowa..
- **Native Orchid Society of Toowoomba**, P.O. Box 2141,Toowoomba 4350. Meetings 7.30pm, 1st Fri. each month. Luthern Church Hall, Cnr. West and Alderly Sts, Toowoomba.

VICTORIA

- **ANOS Geelong**, 2 Cooper St, Melton South 3338. ☎(03) 9743 6040. Meetings 7.30pm, 2nd Wed. each month. Uniting Church Hall, Moorabool St., South Geelong.
- **ANOS Victoria**, P.O. Box 345, Carlton North 3054. ☎(03) 9387-2771. Meetings 8pm, 1st Fri. each month. Meetings at the Toorak Uniting Church Hall, 603 Toorak Road, Toorak. (Melways 58, K4)
- **ANOS Melbourne Suburbs Group**, PO Box 169, Bayswater Vic. 3153. ☎ 0419720355. Meetings held on the 4th Wednesday of the month at 7.30pm at Montrose Primary School, Leith Rd., Montrose 3765 (Melways 52 D7)

SOUTH AUSTRALIA

- **Native Orchid Society of South Australia**, P.O. Box 565, Unley 5061. ☎(08) 8356-7356. Meetings 8pm, 4th Tue. each month. St. Matthews Hall, 67 Bridge St., Kensington.

WESTERN AUSTRALIA

- **ANOS Western Australia**, 27 Maidment Parade Dalyellup WA, 6230. ☎041 9901 335. Meetings 8pm, 2nd Mon. each month. Wilson Community Hall, Braibrise Rd., Wilson.

NEW ZEALAND

- **New Zealand Native Orchid Group**, 22 Orchard St., Wadestown, Wellington, New Zealand.

The Australasian Native Orchid Society Inc.

ABN 88 676 231 296
P.O. 318 Willoughby, N.S.W. 2068 AUSTRALIA.

Back Issues Available:
(Some issues of 12 and 13 only have 2 or 3 copies left)

Volume 12 – Issues 6, 9, 10, 11..... **$3 ea.**
Volume 13 – Issues 1, 2, 3, 5, 6, 7, 9, 10, 11, ...**$6 ea.**
Volume 14 – Issues 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, ..**$8 ea.**
Volume 15 – Issues 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12...**$8 ea.**
Volume 16 – Issues 1, 2, 3, 4, 5,..... **$8 ea.**

Also Available:

DRAWINGS
Superb colour prints of J.J. Riley's drawings on Australian Native Orchids are now available:

Set 1 – $15.00
Pterostylis maxima, Dipodium variegatum, Pterostylis daintreana, Pterostylis grandiflora, Cryptostylis erecta, Genoplesium filiforme, Diuris lanceolata, Rimacola elliptica.

Set 2 – $15.00
Pterostylis sanguinea, Pterostylis depauperata, Acianthus caudatus, Caladenia concinna, Chiloglottis truncata, Dendrobium kingianum, Sarcochilus australis, Dendrobium striolatum.

Set 3 – $15.00
Dendrobium moorei, Lyperanthus nigricans, Dendrobium bowmanii, Eriochilus cucullatus, Pterostylis vittata, Sarcochilus ceciliae, Sarcochilus falcatus, Cymbidium canaliculatum.

Send orders to the above address.

Peter Eygelshoven
Editor, The Orchadian.

Dockrillia banksii, received Grand Champion of the Show, Champion Australian Species and Champion Specimen, and awarded an ACC (82 points), owner Craig Ritchie.