

ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

ABN 56 654 053 676

THE AUSTRALIAN DAISY STUDY GROUP NEWSLETTER NO. 81

Podolepis robusta
(illustration by Gloria Thomlinson)

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LEADER'S LETTER

At our February and March meetings we discussed the future of the Study Group which has been based in Melbourne since it started there some 27 years ago. It was decided that new blood and new ideas were needed for the future progress of the Group, so after the March meeting a letter was sent to all members informing them of our thoughts and asking for new leadership. Sadly no one has come forward and consequently the Australian Daisy Study Group will now go into recess. Hopefully someone will come forward in the future. This will be our last newsletter.

The weekend meeting in May was well attended and we were pleased to welcome country members Matt Hurst, Maree and Graham Goods, and of course Sydney member Angus Stewart who was our main speaker for the day. A report of Angus's talk is given later in the newsletter. Andre Messina kindly came to report on progress with his *Olearia* studies and also brought us some small plants of *Olearia phlogopappa* forms, an *Olearia rugosa* variety and an *O. quercifolia* form, all propagated from collections he made during his travels. Detail of Andre's report is also given later in this newsletter. Another welcome visitor was a very wet weekend which we haven't experienced for some considerable time! On Sunday several members, including all country members, visited Shirley Carn's beautiful garden, with some also visiting Kuranga Nursery and Bob O'Neill's garden. Despite the rain we all had a most enjoyable weekend.

The final Esma Salkin Studentship is still to be awarded and will go to a student who will carry research on Australian daisies at the Melbourne Herbarium over the next summer vacation.

Donations have been made to the Friends of three Australian Gardens, namely the Geelong Botanic Gardens, the Australian Arid Lands Botanic Gardens at Port Augusta and the Maranoa Gardens in Melbourne, to help with the planting of Australian daisies.

We held our final meeting yesterday at John Armstrong's where John organised a beautiful lunch for us to enjoy and remember. John gave a report on his progress with the *Calotis* project which he is continuing and he is still anxious to hear from anyone who has information to contribute.

The success of the Australian Daisy Study Group has been due to the contributions of the whole membership, in particular those of Maureen Schaumann and Judy Barker for their decades of contributions, and of members who have regularly attended meetings each month. We should also remember the valuable contributions made by past members, several of whom are now deceased.

Thank you everyone, we will always enjoy the friendships made over the years.

Natalie.



habit of *Brachyscome procumbens*

THANK YOU

Thank you Daisy Study Group for twenty-seven years of much happiness, lots of laughter and many new friendships. Who would have thought when I started the Group all those years ago of how successful we would become?

It has been the most enjoyable part of my life and I thank all of my successors for making it so. Their knowledge and expertise made the Group what it is today.

Special thanks to Judy Barker for the excellent newsletters she has produced over the past seventeen years. Well done Judy, you deserve a medal.

Best wishes to you all and keep growing DAISIES,
Maureen.

COMING EVENTS: Max and Regina McDowall have kindly invited members to see their garden in spring. BYO lunch. The day is the third Tuesday in September, 16th. Ring Max (03 9850 3411) to ensure nothing has occurred to change the plan. The address is 10 Russell St., Bulleen, 32 H 16.

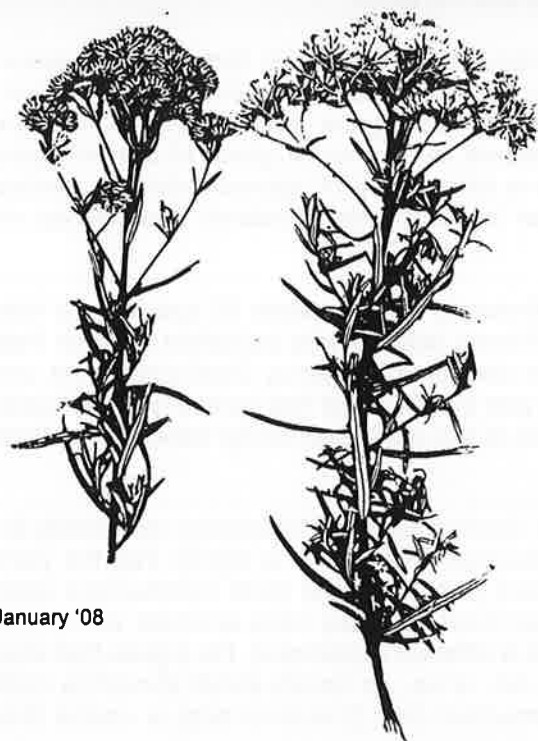
SPECIES OR FORMS NEW TO MEMBERS

Cassinia monticola

by **Ros Cornish**

Cassinia monticola is a recently described species by Orchard (2004). The Wednesday Walkers (Australian Native Plants Society, Canberra) were lucky enough to find it in Ginini Flats in 2006 and again in 2008, but could not identify it from the keys in *Flora of New South Wales* or *Flora of the ACT*. It was identified for us by the Australian National Botanic Gardens and found to be the first recording of it for the ACT. I tracked down the paper by Orchard to find out more about it — and in many cases have used his words (and learnt some new ones).

Cassinia monticola has previously been misidentified as *C. cunninghamii*, as a form of *C. uncata* and as a form of *C. aculeata*. Apparently, as early as the 1850s, Ferdinand von Mueller recognised that it was different and used the name '*C. aculeata* forma *robustior*' for some of the specimens in the Melbourne Herbarium. The type species is from the Bridal Trail Loop near Thredbo, NSW (Southern Tablelands). Its distribution is restricted to the high mountains (hence the species name of *monticola*) of the Kosciuszko region and East Gippsland (and now also the ACT). In NSW it is in a small area of the Snowy Mountains from Thredbo to Kiandra and Happy Jacks Plain while in Victoria it is rare on the Nunniong Plateau of east Gippsland and is in the Snowy Range (Alpine National Park) area of central Gippsland.



January '08

late Feb '08

Cassinia monticola
(photocopy of dried specimens from Ginini Flats x½)
ID confirmed by Dave Mallinson, ANBG

It grows in alpine or subalpine herbfields, grasslands or shrubbery, or on the margins or in the understorey of subalpine woodland of snow gums (*Eucalyptus nitida*, *E. pauciflora*). It apparently prefers an open area, often in frost hollows among tussocks and in wet areas such as river floodplains or boggy hollows, which is exactly where we found it — in a swamp, not far from *E. pauciflora* woodland. Although we only found one plant, it can be locally abundant, even dominant.

Orchard gives a detailed description of all parts of the plant which I won't repeat but will try and summarise enough to give the picture. *C. monticola* is a low spreading shrub to about 1m tall. The old branches are dark grey to purplish black; the young twigs are usually reddish purple with a white indumentum. The leaves are alternate, spreading to sub-erect, and fairly linear, about 15–30mm long and about 1.5–3.5mm wide. They are sessile with a dark glossy green to blue-green upper surface, sticky with dense glandular hairs. The leaf undersurface has a dense mat of white hairs but a glabrous green mid-rib. The leaf margins are revolute and the tip is acute. The inflorescence is quite a large, dense, round-topped cyme of several hundred capitula. The capitula appear bronze-like when young and pale straw-coloured to greenish cream when older. The 16–20 involucre bracts (or phyllaries) are papery and spirally arranged in about 4 whorls. There are 5–6 florets per capitulum. The pappus is 23–26 flattened bristles free

almost to the base, strongly barbellate on the margins with a few small barbs on the faces, particularly near the base. The achenes are more or less square in section, white and weakly longitudinally ridged or wrinkled. Although not mentioned by Orchard, it is a smelly plant — quite spicy, like many *Cassinia* species.

In his paper, Orchard points out the differences between *C. monticola* and the other similar species and summarises its features thus: "In the Mt Kosciuszko region *C. monticola* is a very uniform species, recognised by its +/- flattened leaves, reddish colouration of the young stems, yellow/straw coloured inflorescence, greyish to blue-green leaves with a cottony indumentum at least when young, and achenes lacking twin hairs. In Victoria, collections from the Nunniong Plateau closely match the Mt Kosciuszko plants and are undoubtedly conspecific." He goes on to describe some differences in plants from the Snowy Range and suggests that "further study of the Victorian populations may reveal taxa worthy of recognition at infraspecific rank." So, perhaps the story isn't over yet.

If you would like to see an image of the plant we found at Ginini Flats and its surroundings, go to this site on the internet: <http://www.nativeplants-canberra.asn.au/Uploads/Gininiswamp08345.pdf>

References Used

A revision of *Cassinia* (Asteraceae: Gnaphalieae) in Australia. 2. Sections *Complanatae* and *Venustae*.
A. E. Orchard, *Australian Systematic Botany* 17, 505–533, 2004
Flora of New South Wales Volume 3, Gwen Harden, 1992
Flora of the ACT, Nancy T. Burbidge & Max Gray, 1970

CASSINIA REVISION — Some Interesting Considerations

by Ros Cornish

I discovered recently that there was a revision of *Cassinia* (Asteraceae: Gnaphalieae) in Australia, published by Anthony Orchard in 2004. It resulted in the naming and describing of some new species and revealed that some species have been misidentified. There are a number of papers associated with this work. I thought that ADSSG members might be interested in some of the considerations and findings. It's a long time since I've read any scientific papers — and those were not botanical ones. I had a steep learning curve with the language and don't claim to have understood it all. I don't plan to describe all of the findings as they are very extensive, but would just like to highlight some things that took my fancy.

The introductory paper by Orchard reviews the nomenclatural and taxonomic history of the genus and its relationship to the genus *Ozothamnus*. I have never really come to grips with the differences between the two genera and now I know why — it's difficult. I can't resist quoting the following from Orchard's paper: "*Cassinia*, as defined in this and planned subsequent papers, is a coherent group of over 40 species with many characters in common. *Ozothamnus*, however, is a loose group of approximately 50 species, which seems to be characterised as all those shrubby Australian (and some New Zealand) Gnaphalieae, which are not *Cassinia*."

The genus *Cassinia* was described in 1817 by Robert Brown to accommodate 10 species. He named it in honour of Alexandre-Henri de Cassini (1781–1832), a French botanist who published a lot on Asteraceae between 1816 and 1830. In the same paper, Brown also described the genus *Ozothamnus*. He considered that the only significant difference between the 2 genera was that *Cassinia* had paleae (plural of palea — the chaffy scales on the receptacle of a flower head in a plant of the composite family) between the florets while *Ozothamnus* did not.

I found Orchard's discussion of the naming of the genus *Ozothamnus* very interesting. Apparently Brown did not explain the etymology of the name. It had been assumed that it was to signify that the plants were aromatic (Greek *ozo* = smell; *thamnos* = shrub). Orchard points out that most *Ozothamnus* species are odourless, although some have aromatic leaves, whereas most *Cassinias* have aromatic stems and leaves and a sweet honey smell to the flowers. Orchard suggests a different explanation. He argues that when *ozo* is merged in a compound word, it is usually reduced to *oz-*, *od-*, or *os-*, so 'smelly shrub' should be *Osthamnus*. He thinks it more likely that Brown derived the genus name from *ozos* (branch or twig) or *ozotos* (branched), giving the meaning 'branched or twiggy shrub'.

From Orchard's account of the history of the two genera, it is clear that there has long been confusion and disagreement. At one point he discusses the idea of merging the two genera but points out that it would then be necessary to put "even more genera into the combined taxon, including *Haeckeria*, *Calomeria*, *Apalochlamys*, on the ground that these genera shared some characteristics with *Cassinia* and *Ozothamnus*." He goes on to say "Once this was done, it would then be difficult to argue that genera such as *Pithocarpa* and *Acomis* should not be added as well, as well as other subshrubs as *Ixodia*, *Odixia* and *Ammobium*, and at least some New Zealand '*Helichrysum*' spp., and very soon almost the whole of the Cassiniinae would comprise one or two unwieldy genera. This clearly would be absurd."

Orchard talks of 'core' *Cassinia* and 'core' *Ozothamnus* being able to be distinguished but some species in both genera are anomalous with overlapping characteristics. He states that the 25 (approximately) 'core' *Ozothamnus* can be distinguished from the genus *Cassinia* because they have inner phyllaries (involucral bracts) with radiating tips and no paleae (or very few only) between the florets. *Cassinia* have phyllaries with converging tips and more paleae between the florets — although some have none. He concludes that the remaining 25 or so 'non-core' species of *Ozothamnus* need further careful study. They can be excluded from *Cassinia* and he suspects that most will be found to be something other than *Ozothamnus* or *Cassinia*. So, if you have been having difficulty with something you think is an *Ozothamnus* it may finally end up being

something else entirely. The paper concludes by dividing *Cassinia* into two subgenera, seven sections and two series and describing them.

A number of other papers flow from revision. One, which is of interest to me, describes several new species in the Section *Complanatae*, including *Cassinia monticola*, of which I have already written, and *C. hewsoniae* which is found near here and was named in honour of Dr. Helen Hewson. Helen taught me in 1st year Botany at ANU in 1970. She was a great teacher and went on to have a distinguished career including a long association with the Australian Biological Resources Study, finally becoming its Director (1991–1996) and contributing much to the *Flora of Australia*. She died in 2007, leaving many lasting legacies. After delving into the various papers on the revision of *Cassinia*, I have great admiration for taxonomists — but no wish to be one.

References Used

A revision of *Cassinia* (Asteraceae: Gnaphalieae) in Australia. 1. Introduction and generic and infrageneric considerations. A. E. Orchard, *Australian Systematic Botany* 17, 469–481.

A revision of *Cassinia* (Asteraceae: Gnaphalieae) in Australia. 2. Sections *Complanatae* and *Venustae*. A. E. Orchard, *Australian Systematic Botany* 17, 505–533, 2004.



x 1/2
Cassinia hewsoniae
(Photocopy of dried specimen,
collected Jan '08 from Wamboin,
NSW.)

A PUZZLING DAISY

by Jeff Irons

(This article was published in the December 2007 issue of *The Alpine Gardener*.)

In her biography of A. K. Bulley, Brenda McLean wrote about his trip to the Antipodes and quoted his daughter Lois as saying that when in New South Wales he dug up (and brought back to Britain in the ship's fridge) a plant of the rare *Helipterum albicans* (syn. *H. incanum*) from the very summits of the Blue Mountains. That interested me because the Blue Mountains is an area I know well. It does not have mountains in the usual sense of the word; instead there is a dissected sandstone plateau (in the form of a ramp) with a few isolated, low, basalt-capped peaks. The peaks are covered with rainforest and wet eucalyptus forest. Small daisies such as the one mentioned could not grow on the summits. The references in the book indicate that the author has quoted from Bulley's obituary in the 1942 *AGS Bulletin* (10: 248).

The actual wording is '... he personally collected ... the rare *Helipterum albicans* (synonymous with *H. incanum*) from the very summits of the Blue Mountains.' This is strange because the species is nothing special when not in bloom. When fully open it is just another daisy with white florets; it is usually grown for the attractive buds, not the open flowers.

My own knowledge of the area led me to believe that a valley was a much more likely place to find a small forb and reference to the 1959 revision of *Helipterum* showed that in November 1913 *Helipterum incanum* had been described as occurring in Hartley Vale. This is a much more probable place for Bulley to have found the plant. Being no longer young, he was unlikely to have gone far from a road; the main Great Western Highway passes through Hartley Vale.

Helipterum albicans is a complex species that has been much confused in British gardening literature. Because of that, the Australian Daisy study group was asked for assistance and in turn consulted two 'daisy' botanists. Unanimous opinion was that since so much time had passed since the plant was seen it was impossible to determine its precise identity and where Bulley saw it.

Botanical revision has transferred *Helipterum incanum* to the genus *Leucochrysum*, where it is known as *Leucochrysum albicans* subsp. *albicans* var. *tricolor*. The epithet '*tricolor*' is legitimate but it does not create the autonym '*var. incanum*' since the species name to which it was applied is not legitimate. This epithet refers to the fact that the outer involucral (flower) bracts are dark red; the intermediate ones have been recorded as being yellow (though present-day botanists have not found yellow bracts) and the inner ones are white. It is synonymous with forma *purpureo-album*.

Another possibility (so unlikely that I have not considered it seriously) is that the passage of time made both the place and the species hazy in Lois Bulley's memory. Perhaps she and her father went further into New South Wales than the Blue Mountains and reached the Snowy Mountains. There they might have found

Leucochrysum albicans subsp. *alpinum* which has been known as *H. incanum* var. *alpinum*: it is always a handsome plant with wide leaves.

In cultivation *Leucochrysum albicans* is an easily-grown, short-lived perennial for the rock garden. My own experience leads me to believe that in common with many other Australian daisies a large population is needed for the production of good seed. Cut when in bud, it makes a good 'everlasting' arrangement.

[In a letter Jeff added that Bulley's garden is now the University of Liverpool Botanic Garden (www.nessgardens.com) and that it has sown AD SG seed of *L. albicans* var. *tricolor*. Jeff liked the clear bright yellow of *Podolepis* sp. 1 so much that he gave the Gardens seed of that species for cultivation in either its stone troughs or in the crevice troughs. Crevice gardening is currently fashionable in the UK. The theory is that it provides a favourable environment for alpinists. The fact that weeds will also like it is ignored. Bulley's daughter gave the 64 acre gardens to the University.]

A taxonomic assessment of *Olearia* sect. *Asterotriche* (Asteraceae)

Andre Messina

Supervisors: Trevor Whiffin, Pete Green, Neville Walsh

Abstract: *Olearia*, or daisy bush, is a large, variable and problematic genus containing approximately 180 species, occurring in Australasia. To deal with this variation, Bentham in 1867 divided this genus into five intra-generic sections based on morphological characters, in particular leaf hair type. Contained within section *Asterotriche*, the stellate or star-shaped hair group is one of the more problematic and variable taxa; *Olearia phlogopappa*. This presentation will introduce the two main aims in my research topic: to resolve the *Olearia phlogopappa* complex and to establish support for Bentham's section *Asterotriche* as a monophyletic group.

(Andre kindly sent us a copy of his excellent presentation with its informative coloured slides. The following is a shortened interpretation of it.)

Olearia phlogopappa has a wide distribution in Australia, occurring along the Great Divide and in Tasmania. It grows in the alps, subalps, montane forests and near coasts. It is included in the section *Asterotriche*, which is based on stellate hairs on the underside of the leaves. This section currently contains 24 described species, 18 species in Australia and 6 in New Zealand.

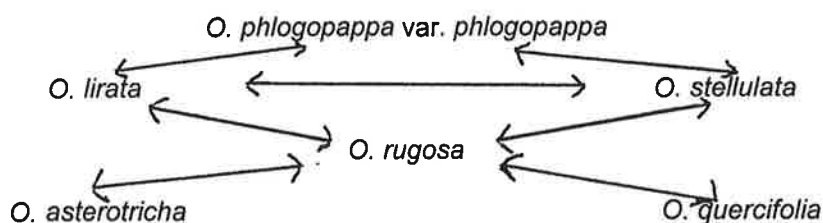
At this time in *O. phlogopappa* there are 7 described varieties:

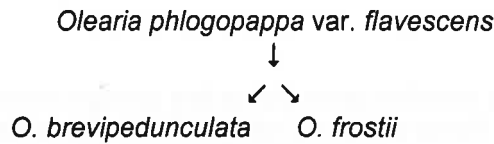
var. <i>phlogopappa</i>	var. <i>microcephala</i>
var. <i>flavescens</i>	var. <i>brevipes</i>
var. <i>subrepanda</i>	var. <i>salicifolia</i>
	var. <i>angustifolia</i>

These varieties are highly variable and further undescribed taxa may occur:

1. sp. aff. Waratah Bay. (From the colour photo we recognized what we thought was a form of *O. polygalifolia* that we had seen when AD SG visited Rob O'Sullivan's and Alan Lacey's gardens at Sandy Point near Waratah Bay. It was a handsome, dense shrub with neat leaves more silvery than the usual green-leafed forms. It grew very close to the shores of the bay and was about as wide as it was tall.)
2. sp. aff. *subrepanda*.
3. sp. aff. Cape Paterson.

Olearia phlogopappa appears to have several closely related species, the boundaries between them being often unclear. Relationships were set out as follows:





A four-pronged attack was devised to study this research topic:

- Morphology — using computer based leaf measurements and hand scored measurements of herbarium specimens.
- DNA — sequencing.
- Chemistry.
- Chromosome counts.

Bentham created 5 sections for the genus *Olearia* based largely on hair type

1. Dicerotriche
2. Eriotriche
3. Adenotriche
4. Merismotriche
5. Asterotriche

Until recently these sections have largely held.

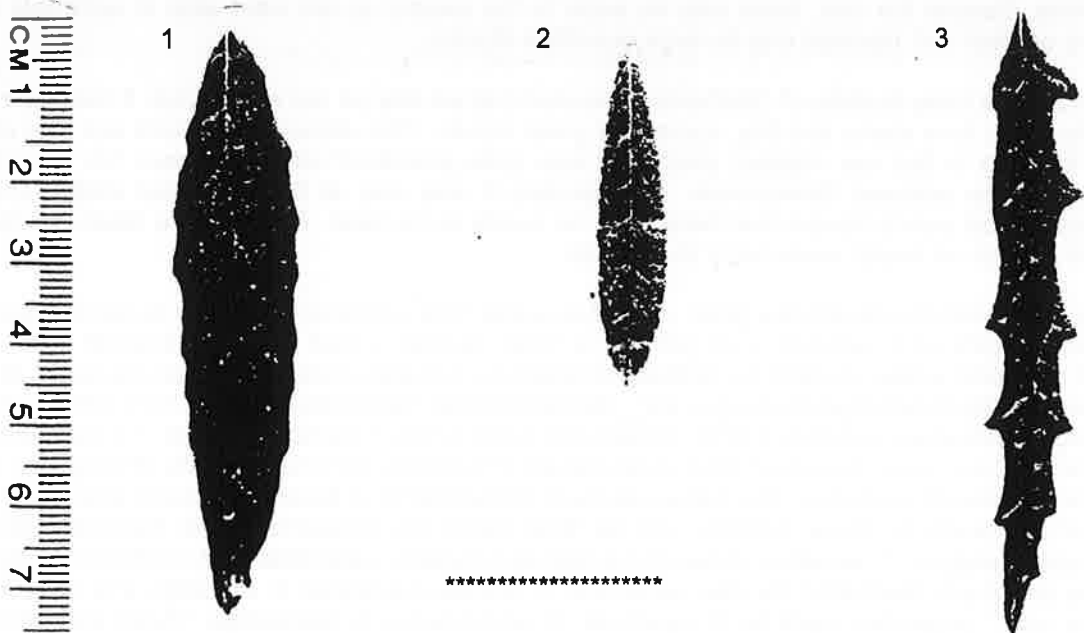
"Representative members of Asterotriche form a well supported group but NZ members were placed in a separate clade." (Cross et al, 2002).

For his research topic Andre needed to find out whether all Australian taxa associated with *O. phlogopappa* in this section formed a monophyletic* group. To answer this question all the taxa in this group from across their range together with representative populations from other sections had to be sampled. This involves much field work, a large part of which has been achieved over the last year. The four-pronged attack will also be used to gain a better understanding of the group as a whole.

* Monophyletic is defined as follows: (Of a taxon) consisting of individuals descended from a common ancestor which is a member of the same taxon. [The Penguin Dictionary of Biology, M. Abercrombie, C.J. Hickman and M. L. Johnson.]

(Andre generously brought numerous pots of olearias to the May meeting and gave them to members during the plant swap. Max McDowall was especially interested in the identity of his three specimens and asked Andre what they were by sending him leaf outlines by email. If other members have specimens with the same outlines they may be interested to know that Andre identified them as follows:

1. *O. phlogopappa* var. *phlogopappa* from Kangara-Boyd NP. It was growing on rich clay soil in a fairly moist and semi-shaded situation, and will grow to about 1.5 x 1.5–2m.
2. *O. phlogopappa* aff. Bass Strait islands from Waratah Bay, just west of Wilsons Promontory. It was growing on primary dunes in dense coastal woodland in semi-shade but would probably be happy in full sun. This species will grow to about 1.5 x 2m.
3. *O. rugosa* var. from near Cabbage Tree Creek, East Gippsland. It was growing in coastal heath next to a small creekline. It will like well drained soil but it would also probably require semi-shade and a bit of water. This species is usually fairly upright and will get to 1.3 x 1m.)



EMERALD GARDENby Trish Tratt

I am very fortunate to have had excellent plant growth this spring/summer. In fact some so vigorous I am now cutting back for the third time. Some plants are way past their expected maximum size and are encroaching on their neighbours.

The very hot days did some damage particularly to ferns which I thought were well sheltered, but a tidy up and recent rain has resulted in new growth.

Now there is the task of clearing up after those huge winds. We were so lucky not to have had major damage, nor loss of power, but it looks as though a giant shredder has been at work spreading its end product everywhere. I know I am far from alone in this and have got off more lightly than many people. Replacement of many smaller plants is now necessary, things like *Brachyscome multifida* have given their all and look tired despite trims and feeding.

In response to John Webb's article on *Bedfordia* species (NL 79) I have a *Bedfordia arborescens*, not nine metres tall but healthy and well branched although no flowers so far.

Many plants have put on their best flowering yet — *Olearia adenophora* has flowered for months; *Olearia lepidophylla* put on a great show and its tiny flowers reminded me of *O. iodochroa* which I always admired in the Gippsland bush. *O. rudis*, somewhat overcome by pushy neighbours — which are being put back in their place — has produced a good show.

Xerochrysum bracteatum attracts numerous butterflies of several species and my last few plants saved for this purpose have dozens of Meadow Argus enjoying their flowers on sunny days. These plants are extremely scruffy but I won't remove them until the butterflies no longer need them. Whilst tidying old *Bulbine bulbosa* I observed a few gorgeous tiny Blue-banded bees vigorously buzz-pollinating the remaining flowers, so these have been left in place. One reference I found said these little fellows are mostly attracted to blue flowers.

Many thanks for the friendship and shared knowledge of Daisy members. I wish you all well in the future.

MYSTERY SOLVED — Ginini Flats Daisy Bushby Ros Cornish

I reported in NL 79 that the Wednesday Walkers (of the Australian Native Plants Society, Canberra) had found a daisy bush at Ginini Flats in December 2006 which we couldn't identify. At that time it was in bud. We decided to schedule a return visit in January 2008 to see it in flower, hopefully, and to take photos and a sample for identification. Mid-January saw us once again descending the old ski run through a mass of flowers brought on by some good summer rain. We veered left towards the swampy area and a few of us clambered through the thickening vegetation at the edge which is making a strong comeback from the 2003 bushfires. Despite the rain, there was no water in the swamp so we were able to scramble along without getting our feet wet, troubled only by large quantities of ants.

We found the many bushes of *Ozothamnus hookeri* that we saw on our earlier visit. It really is a striking plant with its white, furry stems and tiny, appressed green leaves. The yellowy-green buds are very showy. It didn't take too long to find our mystery plant — it was quite prominent standing about 1m tall with masses of yellowy-bronze coloured flowerheads. Unfortunately it was only at the early bud stage. There were the remains of last year's flowers but there were no seeds to be seen. Photos were taken, as was a sample, before we took an easier route out of the swamp.

Once again I tried to identify the plant, without success. You will recall that I was assuming that it was either *Cassinia uncata* or *C. adunca* — or perhaps a "new" species. I tried using the internet again and this time found an article written in 2007 by Anthony Orchard on *Cassinia uncata*. This can be found at the following address: > http://www.rbgsyd.nsw.gov.au/___data/assets/pdf_file/85502/Tel114427Orc.pdf9 < He had looked at various herbarium specimens of *C. uncata* and made some collections himself. He concluded: "*Cassinia uncata* A. Cunn. was described from over-mature incomplete material, and its identity has been a long-standing source of confusion. The name has been misapplied to at least 27 different species of *Cassinia* and one of *Haeckeria* by many authors, and far from being the widespread and common species of much Australian literature, *C. uncata* is shown to be rare and possibly vulnerable, and confined to inland New South Wales and South Australia." He also wrote that *C. uncata* mentioned in Burbidge and Gray in *Flora of the ACT* is not *C. uncata* but could be *C. monticola*, *C. orchracea* or *C. hewsoniae*. These were all new names to

me. Further "surfing" revealed that Orchard did a revision of *Cassinia* in Australia, published in 2004, and several new species were described.

At the time, I didn't have access to Orchard's 2004 paper so was unable to check the descriptions of the new species to see whether our mystery plant was one of them. I decided to return to Ginini Flats with John in late February to get a more mature sample to submit to the Australian National Botanic Gardens for a formal identification. As we made our way down the old ski run we were rewarded with an even better floral display than we saw in January. Many *Podolepis robusta* were flowering in profusion as well as *Rhodanthe anthemoides*, *Xerochrysum subundulata*, *Leucochrysum albicans* ssp. *alpinum* and *Wahlenbergia gloriosa* (the ACT floral emblem).

Our mystery plant was like a beacon in the swamp — we could see it through the trees from the end of the ski run. We took the easiest route in and found it in full flower. The bronze buds had given way to white-tipped flowers and there were insects everywhere. We took more photos and a sample. We also had a good look around to see whether there were any more plants but couldn't see any. They would have been easy to see in full flower.

I put both the early sample of buds and the flowering sample in to the ANBG for identification. Not long afterwards I received a phone call from Dave Mallinson to say that our mystery daisy is *Cassinia monticola*. He went on to say that it was the first record of it in the ACT and that he would use the samples for herbarium specimens. I was really pleased with the result — a "new" daisy which had only been named in 2004 and a new species for the ACT. No wonder it wouldn't key out from the *Flora of New South Wales* key. When I received the formal identification in the mail, I noticed that it was done by Tony Orchard — it must be right!

References used

- The identity of *Cassinia uncata* A. Cunn. (Asteraceae: Gnaphalieae). Anthony E. Orchard *Telopea* 11 427–436, 2007
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MELBOURNE ZOO

by Pat Webb

John and I visited the Melbourne Zoo in mid-April after many years — mainly to see the Butterfly House. We enjoyed it immensely and it is lovely to see the butterflies at close quarters with a friendly volunteer to give us information.

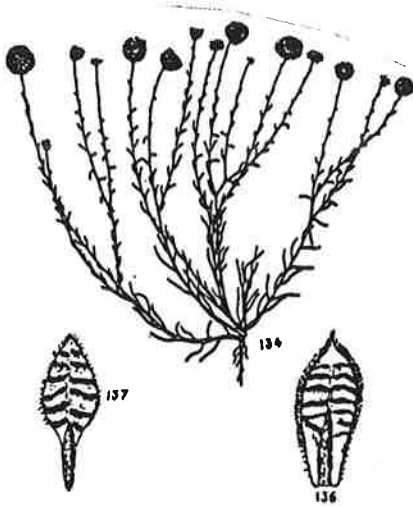
We saw 'Gardening Australia' on TV recently and heard that there was a major replanting of the main drive with Australian plants, notably various daisies. This was good to see, though as in most gardens there were many plants looking distressed. There were several varieties of *Brachyscome multifida*, a couple of species of *Chrysocephalum apiculatum* and several *Leucophyta brownii*. The latter looked most effective when combined with *Lomandra longifolia*. *Xerochrysum bracteatum* (Cockatoo) — a white paper daisy used widely, which obviously had been excellent but now needing some TLC and extensive dead-heading!

Talking to one of the Volunteer guides, we were told that many visitors were enjoying this move to using Australian plants. One of the roundabout beds has been mounded and planted with several *Xanthorhea* species, and was looking most attractive.

The marine and coastal enclosure is closed for redevelopment and landscaping. Guess who has the contract — Taylor Cullity Lathlean. They must be busy at present as they are also working on the second stage development of the Cranbourne Botanic Garden.

NAME CHANGE and A NEW NAME

1. *Nablonium calyceroides* was included in the genus *Ammobium* but has now been returned to *Nablonium calyceroides*.
2. *Ozothamnus reflexifolius* has been described by K. E. Leeson and A. C. Rozefelds on pp. 317–322 in *Australian Systematic Botany* Vol 16, no. 3a. It is a new rare endemic from south-east Tasmania. It seems closely related to *O. lycopodioides* and the 'presumed extinct' *O. selaginoides*.

PODOLEPIS (continued from NL 80)***Podolepis kendallii***

(WA)

Flowering period: Aug–Sept.

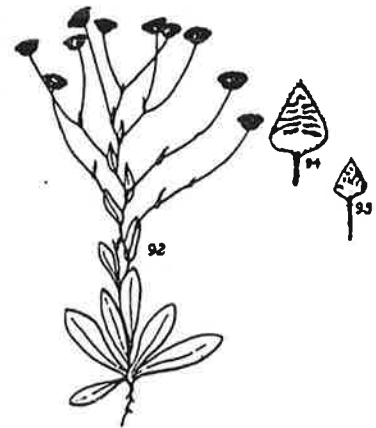
Slender annuals, 20–40cm high, with many sparsely woolly branching stems, which soon become glabrous. Basal leaves are either absent or wither very early. Stem leaves are linear, up to 5 x 0.2cm, and stem-clasping. Single yellow heads, 1.5–2cm across, at the tips of stems are hemispherical or almost globular. It differs from the majority of *Podolepis* in that the florets are all disc florets, no ray florets. Intermediate bracts are light brown, elliptical, 8 x 3mm, wrinkled, with a fringe of short hairs along the margins and a claw at the base. The cypselas also differ in having long, finger-like papillae on the body. Plants occur on sand plains in red sands from the Murchison River area westwards to Laverton. Seed collected from Murrum Station in October '96, treated with SISP and sown in January germinated poorly in 5 days but seedlings did not grow on. Ten years later the same seed did not germinate when treated with RSSD. It might respond to scarification.

Podolepis lessonii

(WA)

Flowering period: Sept–Dec.

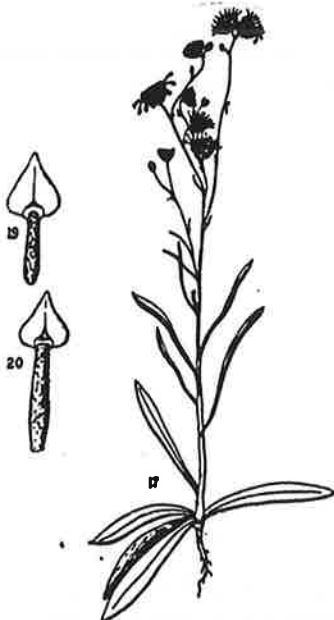
In cultivation a beautiful small annual, 25–30 x 25–30cm, with an erect, rounded habit. Many wiry stems branch pseudo-dichotomously, that is they divide twice, then twice again and again. This gives plants a neat, regular appearance. Basal leaves are oblanceolate, up to 4.5 x 1.2cm, but often wither early. Stem leaves are lanceolate, 0.7–5 x 0.5–2cm, reducing up the stem. They are sessile and stem-clasping, woolly below with sparse septate hairs above and with acute tips. Massed yellow button heads, 7–10mm across, are held singly at the tips of fine red-brown leafless stalks, 5–10cm long. The slightest zephyr sets the heads bobbing. The florets are of disc florets only. Intermediate bracts are semi-transparent, triangular, about 5.4 x 3mm, shallowly wrinkled, with fringed margins and narrow claws. The bracts are soft and dull rather than shining. It does well in sunny sites in well-drained soil, in rockeries or containers. Many members grew it and pronounced it good in cultivation. Bev germinated wild seed from Philip Short, and cultivated seed germinated well in 10–20 days. Occurs in well-drained soils in open woodland and mallee from the Murchison River area to King Georges Sound and inland to Coolgardie.

***Podolepis longipedata***

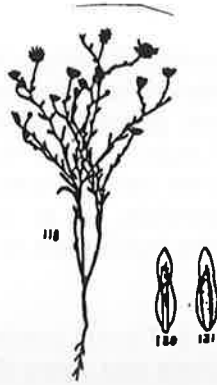
(Qld, NSW, SA)

Tall Copper-wire Daisy

Flowering period: Oct–Dec.



Loosely woolly perennial, 30–70cm high, with a few erect branching stems, slightly hairy, becoming glabrous. Basal leaves are oblanceolate to broad-linear, up to 15 x 2.5cm, either with sparse septate hairs or glabrous, usually withering early. Stem leaves are similar, stem-clasping and becoming slightly shorter and linear up the stems. Yellow heads, 1.5–3cm across, have about 40 ray florets with 3-lobed ligules, up to 2cm long. Heads are usually in loose terminal clusters. Intermediate bracts have red-brown, triangular blades, 8.5mm long, and hairs along the margins. The claws are much longer than the blades and bear short glandular hairs. It occurs on sandy soils, often in low sand dunes. Plants probably need a very sunny situation and excellent drainage but no AD SG member has grown it.



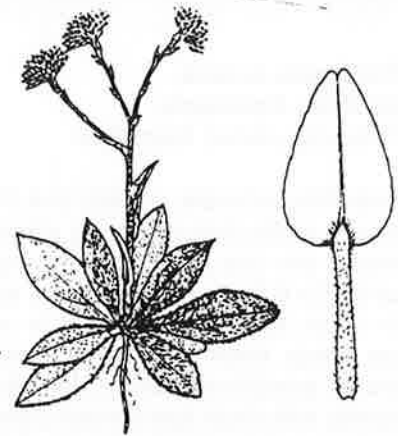
Podolepis microcephala
Small-headed Podolepis
 Flowering period: Sept–Nov.

(WA)

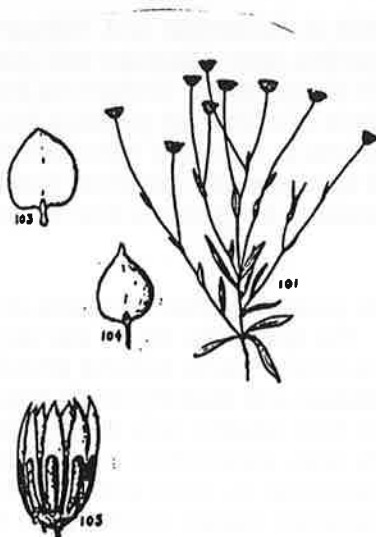
Branching annuals, to 30cm. Stems are purple-red with a grey bloom. There are no basal leaves. Stem leaves are narrow-linear, 10–30 x 1.5mm, sessile, with blunt tips and margins turned under. Small yellow hemispherical heads, about 8mm across, are held at the tips of short stalks. Each head has 6 ray florets, 2mm long, with 4 lobes. The involucre bracts are sessile and glandular, not shining. The intermediate bracts are constricted in the middle. Plants occur in shell dunes and sandy flats near saline areas. This species has not been grown by ADSG members. Some botanists consider this species may belong to the genus *Siemssenia*.

Podolepis monticola
 (Qld, NSW)
 Flowering period: Sept–Feb.

Woolly perennial, 30–50cm high, somewhat similar to *Podolepis jaceoides*. Basal leaves in a rosette have winged petioles, are ovate to obovate, up to 20 x 6cm, the lower surfaces woolly and the upper surfaces rough to the touch. Stem leaves are similar in shape, becoming smaller up the stem. Yellow heads, 2–3cm across, are held in loose few-flowered clusters. Heads have 30 ray florets, 15mm long, with 2–4 lobes. Intermediate bracts have ovate, straw-coloured blades, up to 11mm long, with glandular claws of about the same length. This species is rare, occurring in the McPherson Range at high altitudes, often in rock crevices. Plants should grow in sun or dappled shade in well-drained soils, with rocks for protection. Ros Cornish has grown this species in her garden at Carwoola near Canberra.



(Illustrations by Nicola Oram and Felicity Green reproduced from p. 265 of *Flora of NSW* edited by Gwen J. Harden with the permission of UNSW Press)



Podolepis muelleri
Small Copper-wire Daisy
 Flowering period: Aug–Oct.

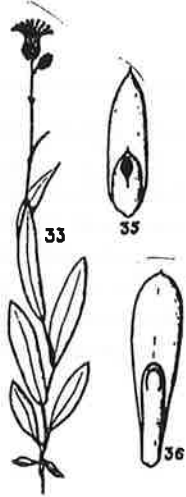
(NSW, SA)

Slender upright annual, 5–20cm high. Stems are wiry, mainly glabrous but slightly woolly near the base. Basal leaves are lanceolate to broad-linear, up to 5.5 x 1cm, sessile, with acute tips, densely woolly on the undersurfaces and sparsely hairy above. Stem leaves are similar in shape, reducing in size up the stem. Small yellow heads, about 6–8mm across, are held singly at the tips of fine, red-brown, leafless stems. Each head holds disc florets only. Intermediate bracts have shining, broad-ovate blades, 3mm across, hairs on the margins and slender claws. The innermost bracts have hard thick claws fused together to form a leathery cup which holds the florets. *P. muelleri* resembles *P. lessonii* but can be distinguished by this cup and by the shining bracts. Plants occur on a wide variety of soils in woodland, grassland and saltbush shrubland in NSW, and on coastal cliffs and inland stony areas in SA. Joyce Berner collected it on the Hillston to Mossgiel road (NSW) and Judy collected it on the Hawker–Orroroo road (SA). ADSG has not propagated it.

Podolepis neglecta

(Qld, NSW)

Flowering period: Sept–Feb.



In nature *P. neglecta* is a slightly hairy, upright perennial, 35–60cm high. Basal leaves are present only on juvenile plants. Stem leaves are narrow-lanceolate, up to 10 x 2cm, sessile, decurrent for a short distance, glabrous or with sparse septate hairs above and sparse woolly hairs below. Large heads, 2–4cm across, are bright yellow and urn-shaped. The 35–50 ray florets have 3-lobed ligules, at least 8mm long. Intermediate bracts are pale, lanceolate, up to 10mm long, shining, with acuminate tips and a hard, darker centre that seems to be part of the claw.

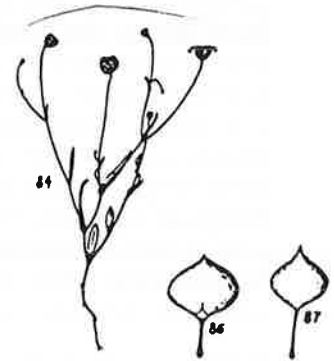
Esma collected seed at Hat Head (NSW) in spring '93. Twenty seeds sown the following February germinated 100% in 7–20 days. Gloria and Jenny Rejske sing the praises of this species and report natural regeneration. Jenny placed it in full sun, semi-shade and shade and noted that plants in the semi-shaded, dry position had 50 heads simultaneously. Gloria says it 'gives a cheerful but delicate display'. This species occurs in well-drained situations, is widespread in Qld and extends to the North Coast and mid-western districts of NSW. *P. neglecta* is similar to *Podolepis jaceioides* but may be distinguished by the lack of basal leaves when established. Young plants have fewer basal leaves.

***Podolepis nutans*
Nodding Podolepis**

(WA)

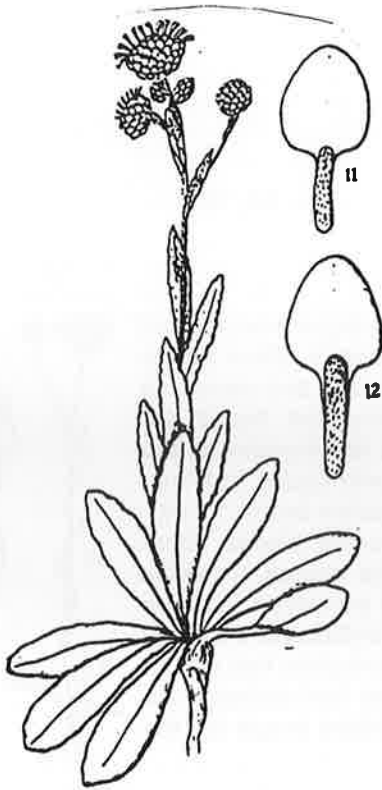
Flowering period: Sept–Nov.

Branching annuals, usually less than 30cm tall, similar to *P. gracilis*. Stems are woolly, particularly on young plants, but often become smoother with age. Basal leaves are only present on young plants. Stem leaves are sessile, lanceolate, up to 6 x 0.8cm, with acute tips and woolly hairs on the lower surfaces. Heads, 1–1.5cm across, are yellow, or yellow-white with tips tinged purple. About 20 ray florets, 5mm long, have 3 lobes. Intermediate bracts, 5.5mm long, are red-brown, smooth and shiny (described as looking "varnished"), and have elliptical blades with short tips curved outwards and narrow glandular claws. There is no distinct midrib, which should distinguish it from *P. gracilis*. Other characters distinguishing *P. gracilis* are that it has pale lilac or pink ligules, the bracts are longer than they are broad, and glands are present on the inner bracts. *P. nutans* has been collected in the Swan River district and King Georges Sound. There are very few herbarium specimens and it is not certain whether it still exists or has become extinct.



Syd Oats and Matt Hurst have sent seed labelled '*P. nutans*' collected in November and February. Both collections have germinated in 7–16 days and been potted on 2–5 months later. Maureen and Judy have grown plants from seed originating from their gardens but the resultant plants do not conform to the above description. For one thing they germinated as a mixture of seedlings, some of which had glabrous leaves and some had septate hairs. Seedlings with septate hairs developed long stems to 1.3m and were identified with misgivings as *Podolepis hieracioides*. We are struggling to identify the seedlings with glabrous basal leaves and have fallen back on the excuse that hybridization may have taken place in our gardens over the years we have been growing *Podolepis* species.

These glabrous seedlings appear to be perennials. When a number are grown together the stems are erect, 50–60cm long, red-brown when young, with sparse white-woolly hairs. The tips of the stems are very white-woolly, and leaf bracts with blades descend beneath the heads for about 5cm. Stems become smooth, gold and glabrous with age. Basal leaves are glabrous on both surfaces, elliptical and tapering at the base, up to 17 x 1.5cm, with acute tips. Stem leaves are lanceolate, 3.5–15 x 0.4–0.7cm, sessile, very shortly decurrent, and margins are slightly recurved. The leaves are not crowded, but are quite distant from each other. Hairs can be seen under the microscope on the lower surfaces. Heads beginning to open are ovoid-truncate, 1.5cm long and 1.8cm across. Outer bracts have triangular, white, transparent, papery bracts, 6mm long, on narrow glandular claws, 3mm long. Intermediate bracts have ovate, slightly smaller blades on longer claws. Inner bracts have longer claws with attenuated blades or no blades. Cypselas are shiny, 4.5 x 1mm, treacle-brown, papillose and with white barbed pappus bristles in a long collar. It certainly does not have red-brown involucre bracts. It can't be *Podolepis nutans*.



Podolepis robusta
Alpine Podolepis, Mountain Lettuce
 Flowering period: Dec–April.

(NSW, ACT, Vic)

Robust, branching perennial, 40–80cm high. Stout stems are erect and sparsely or densely woolly. Basal leaves are oblong to spatulate, up to 20 x 4.5cm, glabrous or sparsely hairy, with entire or crinkly margins. Stem leaves are oblong to broad-linear, up to 15 x 1.5cm, reducing in size up the stem. The bases are stem-clasping, shortly decurrent, and lower leaves are usually glabrous while upper leaves are often densely woolly. Yellow heads, 2–3.5cm across, are loosely clustered at the tips of stems. There are 30–40 ray florets, each ligule 1.7mm long being broader than it is long and having 4 lobes. Intermediate bracts have papery, broad-ovate blades with blunt apices, 8–13mm long, and linear glandular claws of about the same length. Plants occur among grasses in alpine pastures in the Southern Alps. Colin Jones reported that rosettes growing up the flower stalks produced aerial roots. These were picked off, planted in pots and were growing well. Judy noted that some plants were growing vigorously in the garden and were flowering at the end of September in 1993.

Podolepis* sp. aff. *robusta Snowfields
 High-Plain Podolepis
 Flowering period : Jan–Feb.

(NSW, Vic)

This unnamed *Podolepis* from the alps was observed by Doug Froud, a botanist and consultant, in about 1998 when he was working on the Bogong High Plains. A note in the *Flora of Victoria* at the end of the description of *P. robusta* states 'There are possibly 2 distinct entities currently referred to as *P. robusta* in Victoria. The commoner form has bright green, glabrous leaves and yellow florets with ligules to c. 8 mm long. The other form, which appears restricted to the Bogong High Plains and Cobberas Mountains, has greyish, arachnoid leaves and orange florets with ligules to 15 mm long. Further work is required to determine the distinctness and appropriate level of recognition of these forms.'

Neville Walsh kindly made the following information available to AD SG: Only in the last few years has the entity been separated as a distinct thing. In their general dimensions the two entities resemble each other, but *P. sp. aff. robusta* differs in having longer ligules (14–20 mm) which are more deeply toothed, and larger seeds (>4 mm), whereas the ligules of *P. robusta* are 6–13 mm long and the seeds are smaller (<3 mm). Another distinction is that the leaves of *P. sp. aff. robusta* bear crinkled hairs on both surfaces, making them appear grey-green rather than the bright lime green of the glabrous leaves of *P. robusta*.

P. sp. aff. robusta seems to occur at or about the treeline or below, while *P. robusta* is usually above the treeline (or at least in treeless/frost hollow depressions). The two occasionally occur together (e.g. immediately above the treeline on the Big River [the main track out to Mt Nelse etc. off the Falls Ck–Omeo Road]). Neville has also seen it near Native Dog Flat, near Cowombat Flat just into NSW, on the Nunningong Plateau and Bogong High Plains.

Doug Froud is working on a manuscript for this and some other variants of *P. robusta*.

Podolepis rugata

There are two varieties of this species, var. *rugata*. and var. *littoralis*.

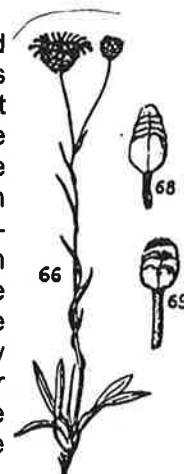
Podolepis rugata* var. *rugata

(Vic, SA, WA)

Pleated Podolepis

Flowering period: Sept–Dec.

Perennials, 25–40cm high, with several erect stems, woolly at first, becoming red-brown and glabrous. Basal leaves are narrow-lanceolate to oblanceolate, but wither early. Stem leaves are linear to linear-elliptic, 4–10cm x 3–1.5mm, with acute to acuminate tips and decurrent bases. The leaves of this variety are never crowded. Bright lemon-yellow heads are perfumed, 3–4cm across and 2cm long, hemispherical, held singly or a few together at the tips of flowering stems, about 3–10cm long. There are 35–70 ray florets with ligules 8–17mm long and 3 lobes. The bracts are the features of this species being yellow-brown to red-brown, shining and deeply wrinkled. Intermediate bracts have broad-ovate blades, 6mm long, with glandular claws roughly the length of the blades. This species occurs in mallee and woodland. In cultivation plants grow well in open positions with root protection, and are neat and attractive in the first year and while they remain upright. In Melbourne it usually flowers from Nov–March. Seed germinates very well in 5–15 days. *P. auriculata* has similar deeply wrinkled involucre bracts but it is an annual, the stems and lower leaf surfaces are woolly and the heads are only 1.8cm across. *P. canescens* also has wrinkled bracts but the wrinkles are shallower and located closer to the top of the blade.



ADSG members with recent experience of growing this species warn that it could become top-heavy in good conditions. The stems are brittle and blacken when broken off or cut back. Perhaps it should be treated as an annual. As yet it does not appear to hybridize with other *Podolepis* species in gardens.

Podolepis rugata* var. *littoralis

(SA)

Flowering period: Oct–Jan.

Semi-prostrate to erect, usually unbranched perennials, 10–25cm high. The stem leaves are oblanceolate to spatulate, crowded and fleshy. Heads are yellow, approximately 3cm across, and are held singly at the tips of stems 8–15cm long. Bracts resemble those of var. *rugata*. These little plants grow on Kangaroo Island, Thistle Island and on the mainland nearby. AD SG has not grown this variety.

***Podolepis tepperi*****Delicate Everlasting, Delicate Copper-wire Daisy**

(syn. *Helichrysum tepperi*)

Flowering period: Sept–Oct.

Slender, erect, short-lived annual, 5–20cm high, very like *P. lessonii*. Basal leaves in a rosette are elliptic, 0.5–2 x 1cm, with cobwebby hairs more dense on the lower surfaces. Stem leaves are few in number, lanceolate, 0.5–2 x 0.7cm, with hairs like those of the basal leaves. Pale yellow, bell-shaped heads, 3–5mm across, are usually in loose clusters on stems 1–4cm long. All florets are tubular. Intermediate bracts have linear to ovate blades, 3–4mm long, shining, greenish with papery entire margins, and glabrous claws of about the same length. It occurs in mallee on sands and in woodland. *Podolepis lessonii* is distinguished by the buds which are longer than they are wide. *P. muelleri* is also similar but has smaller, bright green leaves.



(Vic, SA, WA)

(The illustration of *Podolepis tepperi* by Enid Mayfield is reproduced from p. 780 of *Flora of Victoria* Vol. 4 with the kind permission of Neville Walsh.)

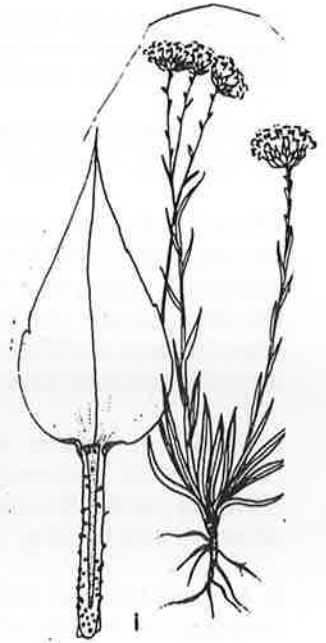
Podolepis sp. 1

(Vic, ? SA)

Basalt Podolepis(previously known as *Podolepis* sp. aff. *jaceoides*)

Flowering period: Oct–Jan.

In cultivation a lightly branching perennial about 40cm high. Sparsely hairy stems branch two or three times in the top half. Basal leaves are linear, to 15 x 0.5cm, and have hairs on lower midribs and margins. Stem leaves are dark green, sessile, linear, 1–8 x 0.1–0.4cm, reducing in size up the stem. Bright yellow heads, 3–5cm across, are held singly at the tips of stems. Intermediate bracts have ovate, papery blades, 7–17mm long, with acuminate tips and linear glandular claws of about the same length as the blades. Ray florets (30–40 per head) have 3-lobed ligules, 10–20mm long. This species is neater than *Podolepis jaceoides* but otherwise very similar. The outer bracts of *Podolepis jaceoides* have obtuse or subacute tips and the leaves are usually hairy. *Podolepis* sp. 1 occurs mainly on the basalt plains north and west of Melbourne but also on heavy clay soils in grassland communities. Plants are easily grown in gardens, the best position being open and fairly dry if the soil is good. When pampered the stems tend to fall over and plants become untidy. In these circumstances they can be cut back to the ground and allowed to shoot again to develop a neater habit. Plants also self-sow and appear to produce hybrids. In Maureen's clay soil they are very attractive. (The illustration of *Podolepis* sp. 1 drawn by Enid Mayfield has been reproduced from p. 780 in *Flora of Victoria* Vol. 4 with permission from Neville Walsh.)

**Observations**

Having germinated seeds of *Podolepis* and grown the resultant seedlings in our gardens over the last twelve months, we have drawn several conclusions:

1. Flowers formed last November and December seem to hold their seed over a long period (perhaps as long as two months) for at least some of the species we have grown. While the pendent heads contain obvious white fluffy material (the pappus bristles), the seeds appear to be ripening. Seed should be collected while the drying head is broadly obconical. If the bracts have flattened out, very little mature seed remains. This may provide the answer to members' complaints that seed of *Podolepis* spp. given to them did not germinate. We may have been collecting it too soon.
2. Many of the species grown in our gardens have been top-heavy. Too many flower-heads have pulled the stems to the ground. If growers suspect this is happening they should try cutting stems back hard and fostering the weaker secondary growth.
3. We have found it difficult to identify species under cultivation, even when we know the identity of the species bought from the seed supplier. This has led us to think that hybridization might have occurred under garden conditions.

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 Walsh, N.G. and Entwisle, T.J. (eds) (1999). *Flora of Victoria* Vol. 4, *Podolepis* p.777–782. We particularly thank Neville Walsh for telling us of the existence of the unnamed *Podolepis* and for providing the information about it.

The illustrations accompanying the descriptions are photocopies of the illustrations that appeared in Dr. Davis' revision of *Podolepis*. If the species was not included in the revision, permission to reproduce the illustration has been obtained as follows:

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by Maureen Schaumann and Judy Barker.

BRACHYSCOME BREEDING

by Angus Stewart

(The following is a CD presentation sent to us by Angus. The presentation he made at the May meeting held this information but was expanded to include breeding with Australian species other than *Brachyscome* species, and also a few exotic species. We enjoyed both his contributions very much.)

The CD presentation sent to Natalie held the results of a breeding program carried out at RAMM Botanicals at Tuggerah, New South Wales.

Chemical mutation programs were undertaken using colchicine and oryzalin to create polyploids with increased chromosome numbers. The use of such chemicals produces larger flowers on plants. Examples of increased flower size were shown resulting from treatment of *Brachyscome chrysoglossa*, which is an excellent subject for breeding larger flowers, some of which have orange hues in winter. A hybrid of *Brachyscome multifida* has created a large flowered cultivar, named 'Pacific Storm'. It has a long flowering period, a compact habit and a good clear colour.

Irradiation is another tool used in breeding programs to produce compact forms. A promising form of *Brachyscome microcarpa*, a species from coastal NSW, was irradiated to produce more compact, free flowering plants. *Brachyscome* 'Darling Downs' has also been treated to produce a compact plant with very attractive pink flowers.

B. formosa has also proved to be an outstanding species for breeding for its interesting purple tonings in the foliage at certain times and also for its lightly suckering growth habit.

Angus feels there is a prospect of the perfect daisy flower form somewhere within this genus.

Outside the genus we were shown a handsome *Calomeria amaranthoides* waiting for domestication.

At the afternoon meeting in May Angus outlined the properties of the perfect nursery plant. Compact habit, large heads, good flower colour, short flower stems, attractive foliage, long flowering periods and ease of propagation are all desirable characters. To date he said that *Brachyscome multifida* 'Mauve Delight' and 'Pink Haze' have been the most commercially successful of the *B. multifida* hybrids.

The advantages of some *Brachyscome* species are compact habit, year-round flowering, and they are very easy to propagate and quick to produce. The disadvantages are their limited colour range and the fact that the ray florets reflex.

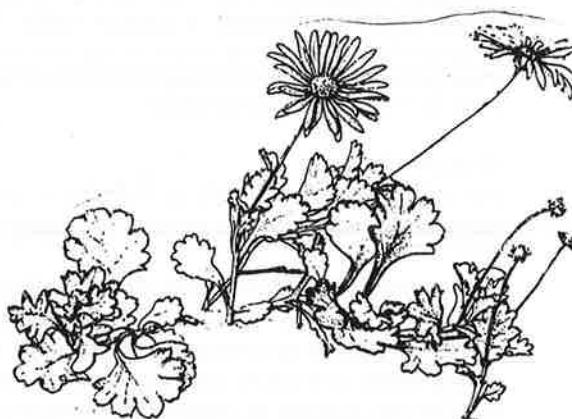
Hybrids had been produced by crossing *B. chrysoglossa* with *B. formosa* to produce *B.* 'Pacific Sun'. Another hybrid with an interesting leaf and bigger flowers resulted from crossing a compact form of *B. microcarpa* with *B. formosa*. Hybrids are often sterile but tetraploids restore fertility. Using chemicals such as colchicine and oryzalin to treat hybrids will produce diploids and tetraploids, which results in larger flower-heads. and possibly restore fertility.

Xerochrysum bracteatum is a polymorphic species occurring over a wide range of habitats. Dwarf coastal forms can be used to produce compact cultivars while large-flowered perennial forms are used to increase flower size. The advantages of this species for cut flowers or pots are that they are easy to propagate and are long flowering. *Ozothamnus diosmifolius* 'Radiance' is a new hybrid that never stops flowering.

Other than daisies, species being crossed were *Chamaelaucium uncinatum* with large-flowered *Chamaelaucium megalopetalum*. *Scaevola aemula* 'Purple Fanfare' arose in Neil Marriott's garden as a chance hybrid. *Scaevola* 'Super Clusters' is a good, very long flowering hybrid.

Some intergeneric hybrids have been created by crossing *Verticordia* species with *Chamaelaucium* species.

It was a very entertaining and informative talk, and we all enjoyed seeing and hearing Angus "live" for much longer than the section on the TV screen each week. Thank you for coming to cold, cloudy Melbourne to give us pleasure, Angus.



Brachyscome formosa
(illustrated by Gloria Thomlinson)

CONGRATULATIONS to CHRISTINA FLANN

Many of the ADSG members will remember Christina Flann, who was awarded the inaugural Jim Willis studentship in the late 1990s. She worked on the taxonomy of the entity that was then known as *Bracteantha* sp. aff. *subundulata*, and was supervised by Neville Walsh. The result of that work was the erection of a new species of *Bracteantha*, *B. palustris* — the specific epithet chosen to commemorate the habitat of this new species. We know it now as *Xerochrysum palustre*. Christina agreed to give a lecture on her work at the May meeting on 2nd May 1999 at East Hawthorn. We enjoyed the lecture very much and were delighted that she should join the Study Group for two years after that. Subsequently she worked on the taxonomy of *Leptorhynchos squamatus* under Paul Wilson in Perth. Christina was responsible for writing two sections under Asteraceae in the *Flora of Victoria*, Vol. 4, namely, *Bracteantha*, pp. 749–752; and *Leptorhynchos*, pp. 769–774. We sensed that she would go far in her chosen profession. It was therefore no surprise to hear from her step-grandmother, Elizabeth Meredith, that Christina was on a short list for a scholarship from the Washington Museum but had also been awarded a prestigious grant and had accepted it. Elizabeth sent an edited email from Christina with the following details:

"I got the NWO Dutch Government grant for three years of work on the Daisy Checklist project. I've been to England (London, Portland and York) and Slovakia (Smolenice and Bratislava) for work.

My project is producing a database of the names of the Compositae (also known as the Asteraceae and commonly the daisies) on a global scale. There are at least 25,000 species in the family and each species can have many synonyms. Once you add in the subspecies etc the number of names is more than 100,000. My job is to validate the data about the names. So we have pulled together existing electronic datasets. I check that the data for the same name has all been linked together and that the information about who published the name (the author), where it was published and its status under the International Code of Botanical Nomenclature, is all correct. The latter is the most complicated task and involves researching the original publications, often hundreds of years old, to see whether the name is valid and legitimate according to the rules. On top of that the database records the taxonomy of the datasets that are included, so which names are accepted — in current use — and which are considered synonyms. This can differ between treatments and countries, and in the long term it is hoped that this database will offer not only a definitive resource for the nomenclature but also the taxonomy. But really, the nomenclature is at least a decade of work already!"

We think the project has been delivered into very safe hands.

MEMBERS' REPORTS

Barbara Buchanan of Myrree (Vic) reported on 12/3/08: 'I've had a deal of success with the seedlings you kindly brought up last year, but of course lost a few over summer. To my disappointment this included most of the *Isopogon formosus*, only the one in Benalla is still there. I think I put them in too small. We did have good rain early in the summer but autumn has been dry again and of course there is no bank of water in the soil. I water once a week at Benalla, but not much here except for the pots. This has produced a wonderful show out the back of the bracteanthas and leiocarpas and some swainsona and some of the helichrysums. Here and in town they swarm with insects, lots of pale speckled moths among others. I saw a blue wren using a convenient perch to make feeding raids amongst them. The eremophilas have loved the old vegie garden in town and the Avenel acacia is flourishing, almost growing too fast. I get afraid such rockets will collapse, but if it does later it will have provided welcome green in the meantime.'

Linda Handscombe of Pomonal (Vic) wrote on 8/4/08 and sent some delightful photos. Her carpal tunnel operation had misbehaved, and was still causing trouble about four months later in spite of massages, exercises and therapy. The photos were taken to the April meeting for S & T, and were much admired. She said, 'I wanted to send you these photos of the local daisies that occurred this spring. The *Helichrysum leucopsidium* was a carpet in 2006 and I collected some seed and have some lovely plants still in pots. Last year when I took these photos there were not nearly as many plants but still a lovely picture.

The *Ixodia* this year in Jenny and Hayden's driveway was so thick you couldn't penetrate it. Jenny said she took cuttings of a pinkish tinged one which struck but I didn't see it in flower. The *Argentipallium* took me by surprise. I saw the odd plant along the roadside, and one day in a strip cleared under overhead wires there was suddenly a field of it. I went up to get seed for you and me and it was all gone. So I took some cuttings and, although they looked all dead, they started to grow new shoots in the leaf axes and have very fine roots circling around and around the pot.

I also enclosed some flower show photos and some of my daisies and paws. The daisies are looking very sad now but are still holding in there. My sister came up for a day and helped me cut them all back with Fiska shears. Now we all hope for rain!

We have only had 75mm this year, which is better than some places, but not as good as my sister in Sydney who says she has had that in a week. We had 6mm in one windstorm last week which, according to the locals, fell as mud. At the time I was in Melbourne with another sister at the Garden Show. It was the highlight of my year so far but after 1½ hours we had to leave due to the wind. In the brief time there I bought a left-handed pair of secateurs (because I can't use secateurs in right hand for long), some plants for David and I, and several books (50% off). One of them was your *Brachyscome* book which we didn't have. That brings me to the letter from Natalie. The book is amazing as are the newsletters. I am always in awe of your collective and individual knowledge and your drive and determination.

I feel badly that you have all been over-loaded for so long, but know that if nobody steps up to take over you will all continue to meet and enjoy the daisies and the company without the weight of responsibility.'

(Linda attributes 95% of the production of her Bushfire CD to her sister as the techno wiz. She watched it again recently and thought, 'Oh yes, I have achieved something in two years.' She asked whether her boss, Hayden, and his wife Jenny had watched it again. They said they watched it once, without speaking, were profoundly moved and can't watch it again! That was also my reaction but I have watched it again — with the same result! I will watch it again but I think it will always have the same effect. Beth McRobert has asked to borrow it for her Group's next meeting. ...Judy.)

Gloria Thomlinson of Shepparton (Vic) wrote on 7/4/08: 'I would indeed like to join in a Nursery Crawl in the future to keep in touch with everyone. It has hit me (along with a lot of others I would guess) that I will miss, very much, that great newsletter coming in the mail each quarter. You will no doubt hardly be able to believe that you don't have the deadline any more.'

Syd and Syl Oats of Elizabeth East (SA) rang on 30/4/08 to report on their garden and other matters. The garden has fared relatively well over the dry summer except that the correas mostly died. The daisies were colourful but are now almost finished. Arthritis in Syl's knees stop her from doing much planting, so she relies on natural regeneration of daisies. Syl has involved herself in family history and is finding it most stimulating.

Syd is delighted that the 8 colour slides of a dust storm he photographed in 1968 and put on Flickr are receiving much praise from viewers. (His code word is expom2UK) He is particularly pleased that the weather man on an ABC channel in New York has asked permission to include the photos in a weather science book he is producing for Year 9 students. His other claims to fame are that he is the most prolific thimble-maker in Australia, and that he wrote a paper on his experiences as an evacuee during World War Two. His family lived beside the Tilbury docks — right in the path of the nightly German bombers. Ninety evacuees were sent to near Cromer in Norfolk for safety, and it is of these experiences that he has written. His paper is being published now by a Tilbury school called the Gateway Academy. As an AD SG member he was always experimenting. One of his many successes resulted in the modification of the method Joy Greig and I used for soaking seed in diluted detergent.

They both congratulated AD SG members on a long and successful period as a Study Group.

(I can attest to Syd's dexterity with thimbles. I am the owner of a beautiful silver thimble presented to me during my stint as leader. Judy.)

Jeff Irons of Heswall (England) reported in May '08: 'Last winter we had successive nights with minimum temperatures of -6°C. *Podolepis* sp. 1 came through unscathed and is now a mass of buds. I think so highly of it that a packet of last year's seed has been given to a high status alpine nursery in North Wales.

Last spring I planted three 12 inch (30cm) high *Ozothamnus x purpurascens* in the garden. They were put in the driest part, where next door's willow sucks out most of the soil moisture. By the end of the summer they were 2m high. This year we have had a cold spring and there have been only 10-14 days of warm weather, yet already they have put on 9 inches (22.5cm) of new growth. There is one shoot with a flower bud. That indicates that it should flower at the same time as *O. ericifolius*.'

Beth McRobert of Jamboree Heights (Qld) wrote on 20/5/08: 'I am returning the Canning stock route CD — which we found very interesting. A number of people at our meeting have had time in WA so we were able to make comments, and some of the plants are ones that both Lorna Murray and I have seen on other trips, so we had an informative evening.

All my best intentions of requesting some seed have not been realized, and that's probably worked out well, because the rain has stopped. Though we had a summer where we had enough rain to keep everything

green, it's a bit worrying to see how everything has dried off. There isn't much moisture when I start digging in the garden. All the dams in Queensland are full, except those that supply Brisbane, so we are still on Category 6 water restrictions, and that means that it's probably best not to have annuals in the garden.

(Regarding the closure of AD SG) You have all done just so much work, and have so much knowledge — it is understandable that you wish to take a rest from the study group tasks, but what a loss if no one is prepared to take it over. You all seemed to have such a lovely time together — while reading your newsletters I often wished I could have joined in — but distance and time are two factors that are not easily overcome.'

Margery Stutchbury of Bundaberg (Qld) rang in early June to thank AD SG and to congratulate the members. It was very nice to hear her cheery voice again. She also wished she had managed to get to one of the AD SG meetings.

Peg McAllister of North Croydon (Vic) reported in mid-June that *Brachyscome spathulata* has seeded itself so prolifically in her garden that she regards it as indigenous — like the Flannel Flowers. She is looking forward to the blue faces competing with the white ones.

She is sad that the Study Group is closing down. It has been a great experience and a delightful episode. Peg hopes the members will go on meeting and sharing and laughing.

EDITOR'S NOTE

It has been a most rewarding seventeen years of editorship for me. It has taught me a modicum about computers, something about grammar and botanical conventions, and much about plants, particularly daisies. As I said in my March note, I have loved the interchanges with the NL contributors, whose humour and activities have enriched my life. Their sympathy in bad times has lightened the load.

Special thanks to my sub-editor, Lee, who has cheerfully tried to decipher certain words or meanings, and who has spent countless hours over the years trying to rid the newsletters of typos, double spaces, strange punctuation and a variety of other errors.

I would like to thank Natalie for her Leader's role and for the huge amount of work she has undertaken in holding the May Meeting at her home for many years.

Maureen has been an example to us all. She claims that all she knew about Australian daisies was that she loved them when she founded the Study Group (as the *Brachyscome / Helipterum* Study Group) in 1981. It was her enthusiasm, organising ability and sense of humour that attracted many of us to the Group, and galvanised us into strenuous action, both cerebral and practical, when we got into our stride. We were always inspired by her amazing powers of observation and her memory. She was the mother hen, and she fiercely protected and subtly directed her chickens. It was not easy when we began because there was no allocation of starting funds, so money-raising activities were essential. Every activity added substantially to our funds. Even when she retired as leader she could always be depended upon to respond to any plea with all the energy of old, and that is still the case. If new ideas are required Maureen always produces sensible and innovative approaches. I will always be grateful for the happy times AD SG has given its members,



Habit of *Brachyscome latei*
(illustrated by Gloria Thomlinson)

gjh

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Note to all members, Regional and Group Treasurers:

ADSG SUBSCRIPTIONS

Please DO NOT send subscriptions for 2008–2009 until a new committee is formed and banking arrangements finalised. Any cheques which do arrive cannot be banked until this happens.
