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NEWSLETTER

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Welcome

to our new members
Margaret Sleigh NSW
Neil & Wendy Marriott Vic

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Actinotus schwarzii (Desert Flannel Flower)
growing in the McDonnell Ranges, NT.

There is a National Recovery Program being undertaken.
Photo: <http://www.facebook.com/ausemade/posts/197779430358373>

*Happy
Christmas
everyone!*

**The Waratah and Flannel Flower Study Group is affiliated with the
Australian Native Plants Society (Australia) - ANPSA**

Newsletters are sent out in May and November (electronic only).

Membership is restricted to individuals (including partners) and not groups.

Membership \$5.00 per year to be paid by cheque or Direct Debit upon receipt of invoice.

There is no deadline for newsletter contributions - send them anytime, sooner rather than later.

Maria writes:

After the heavy rains in February following a very wet two years previously, the tap turned off and we entered a prolonged dry spell. Plants which had developed a lot of surface roots succumbed to the lowering water table and my garden started to develop a few serious holes from plant deaths. You'll be pleased to know I didn't lose a single waratah and I put this down to deep watering trying to encourage roots to go down deep into the soil. We also had one of the most severe winters with day after day of -7C frosts. The waratahs and even a potted Flannel Flower survived it all. Apparently it's been a poor year for commercial waratah production but I hope this is only a blip in what is becoming a strong local industry. I'm very impressed with the Wild Brumby Range (*T. truncata* hybrids) two of which I planted out a few years ago and which flowered for the first time this year. I now have the complete potted collection of 5 varieties which are growing very strongly. They will be planted out this season. I also put a species form

of *T. speciosissima* (Blue Mts progeny) and *T. speciosissima* 'Sunflare' into large tubs and will watch their progress. John Nevin was able to procure 20 *T. aspera* plants from Gordon Meiklejohn of Brimstone Waratahs for our local APS members to trial. I have a seedling as well to compare progress. This is the Gibraltar Range waratah which was split of from *T. speciosissima* some time ago. It has a reputation for being difficult to grow and has the same growth habit as *T. speciosissima*. Some people think you may need some microorganisms from around the base of a mature plant. I'd welcome a discussion on this. One discussion that we have had is pruning hybrid waratahs. I spoke to several people about this and put out an email for your responses. Included in this newsletter is the result of that discussion. There is a stronger emphasis on Flannel Flowers in this edition prompted by some photos sent to me by Catriona Bate of *A. schwartzii* from the MacDonnell Ranges. Nice to see a national recovery program in place.

Have a great summer!

Do you all have a copy of

'Australian Plants'

Vol 25 No 201 Dec. 2009

This is an excellent reference on waratahs. If you would like a copy please email me as I now have a number to give away free to members. I asked for them to be sent to me in lieu of the NSW Study Groups contribution.

**Do you also have
'The Waratah'
2nd Ed.**

Paul Nixon
Kangaroo Press 1997

*What other references would be useful?
Please let me know and I will include
them in the next newsletter
Please send any interesting articles that you
would like to share with the other members.
Your own experiences are always of great
interest to others.
Please don't hesitate to email me at any time.*



Postcard produced by ANFGPA (Australian Native Flower Growers and Promoters)

From the members

Harry Kibbler writes:

This year was really bad for most growers. The dry conditions during Waratah flower development in late winter, early spring resulted in deformed and very small flowers. The number of flowers was also low.



Photo: Harry Kibbler

I grow flannel flowers as well and the season is also very late for us. I usually replace half my flowers (around 3,000) every year. They normally take approximately 5 months from the time they are planted in 10L bags to flowering (at least 50% of the plants flower). This year I planted the seedlings out in late April/early May and they have yet to flower (November).

I sell to the Sydney market. We have a reasonable market from summer through to spring but flannels aren't that popular in Sydney and I am limited to how many I can send without dropping the price. The majority go to Japan and next week we are sending a trial shipment to the USA for the first time. We formed a Co-operative (the Native Flower Growers Co-operative trading as Golden Gecko flowers) to maximise our sales of flannels and ensure continuity of supply. The other members also sell into the Brisbane and Melbourne markets but we are limited by lack of product at the moment.



Photo: Harry Kibbler

We sell the best ones as White Velvet. However, the original seedlings we received from Ross Worrall had a lot of variability. Over the last 7 years we have been collecting the seeds from the best plants and have improved the size of the flowers and increased the average length of the stems by 15cm. However, we still get plants with small flowers or/and short stems. Cuttings are not easy to propagate and are not a viable proposition in the short term (we need 3,000 to 4,000 a year to maintain a continuous supply).

James Ward (Blue Mountains APS) writes: There is a section alongside the track from the Kiosk near Katoomba Falls to the Scenic Railway which was burned. I was told (on a bird walk on Saturday) that there are lots of flannel flowers coming into bud and that these are the pink ones (*A. forsythii*). Apparently there are other interesting plants regenerating there as well.

Cathy Offord's writes: The trials we have conducted have had no success germinating *A. forsythii* seeds and cuttings are very difficult.

Ed. *There needs to be some serious work done with this species to ensure its survival. Perhaps the Flora Foundation might be able to help.*

Growing Flannel Flowers

by Harry Kibbler

The following is the method we use. The flannels we grow flower all year round (a variety found by Ross Worrall). Other varieties/cultivars may require different treatment.

Germination

I scatter seed thickly over seed trays of perlite:peat:vermiculite (ratio of 1:1:1) kept in a cool shaded polyhouse. We cover the seeds with the same seedling mix to a depth of 0.5 - 1cm. We have found that soaking in hot water overnight does increase the germination. We also found that sowing seed in hot weather can result in zero germination. Ross Worrall (late of the NSW DPI) said that 20C is the optimum temperature. I am also careful not to over water. We have a misting system but recently ran out of water and have been hand watering once a day with good results. We start seeing the cotyledons after 4 weeks (almost to the day). They continue to emerge up to a couple of months.

Planting out

We often leave the seedlings in situ for months. The seedlings grow very slowly until they are planted into larger bags (10L in our case). Once they are planted out they take approx. 5 months to reach their peak of flowering. The critical time for us is when we put them in the larger bags in order to maintain a continuous supply of flowers.

Potting on

Composted pine bark/sand (ratio of 5:1, sometimes I think they reversed the ratio but it didn't have any detrimental effect) and adjust the watering system to maintain moist conditions. We chose the potting mix on cost alone. We tried re-earth and other mixes offered by the council but they were a failure.... killed the plants.

Fertilisers

We plant them with 5g of slow release fertiliser and water them in with Seasol 300ml/bag. We feed them every second week in winter and every week in spring through to autumn with Calcium nitrate alternated with a general fertiliser (low in Phospho-

rus and high in Potassium) not that they are susceptible to Phosphorus. It is more a case of what worked rather than the result of any nutritional trial. I understand Ross Worrall received an RIRDC grant to produce a book on growing flannels but he has retired and he was never one to be hurried. We found Thrive, high K was the best general fertiliser but it is no longer sold in commercial quantities.

The amount of fertiliser is high (probably excessive but we harvest every week for two years, when we throw them away and replant. I have had plants in the garden with only slow release fertiliser and they have flowered continuously for over a year. Although I never harvested the flowers.



Actinotus belianthi 'Federation Star'

You might like to download this document from the web.

<https://rirdc.infoservices.com.au/downloads/10-065>

File Format: PDF/Adobe Acrobat

Growing **Flannel Flowers** all. Year Round. By Dr **Ross Worrall** and Len Tesoriero. May 2010. RIRDC Publication No 10/065. RIRDC Project No. PRJ-000498 ...

Propagation and Cultivation of Flannel Flowers

Cathy Offord and Joanne Tyler

Edited version of article on Australian Plants Online

Germination: Seed germination is very unreliable. Sometimes they germinate easily and other times not at all. Temperature may play a role. The University of Sydney has found there is a high proportion of embryo-less seeds in *Actinotus helianthi* (possibly up to 10%). The rest are in a state of dormancy. Seeds sown directly after collecting are purported to be very regenerative. After this initial phase they appear to require an after-ripening period which may be months to years. Massive numbers of Flannel Flowers germinate following bush fires, indicating that the seed has good longevity.

Cuttings: Flannel Flowers are easily propagated by cuttings taken from cultivated plants. The optimum rooting treatment is IBA 2000-3000 ppm. We have used Clonex purple (IBA 3000 ppm) and steam sterilised propagation mix containing perlite, sand and coir (4:1:1). Tip cuttings with mist had the best results. The root systems are very delicate and roots may be easily damaged during potting up. It might be worth treating the cuttings as plugs.

Cut Flowers: Flannel Flowers have a long vase life (up to 2 weeks). They are prone to stem air embolisms when cut so must be placed in water immediately. Blooms should be harvested when the lower flowers on the umbel are just beginning to open. Vase life can be extended by overnight treatment in 1% sucrose and 0.5% citric acid. The flowering period is from August through to March with peak numbers occurring in September in some areas. Flannel Flowers produced earlier in the season are larger and more numerous. Harvesting may bring on a second flush of flowers.

Pot Plants: They may excellent pot plants for the balcony or terrace. We use a mixture of sand, perlite and coir fibre (10:4:2). Other freely draining potting mixes could be used but care might be needed to avoid high levels or imbalances of

nutrients. We fertilise with slow release low phosphorus fertiliser (a 1:1 mix of Nutricote purple and blue) and the occasional iron supplement at the recommended rate will avoid yellowing. They may last up to 3 years in a pot.

Garden Plants: Flannel flowers can grow in a variety of garden situations provided the soil is free-draining, not too rich and there is some sun. One researcher has had success growing them in a herb garden where they seem to appreciate the dry conditions and protection from other plants. Coastal plants may succumb to frost so it is better to try Blue Mountains types in colder areas. They grow well for up to 4 years in cultivation.

Growing Flannel Flowers

from Royal Botanic Gardens Sydney website

Flannel flowers *Actinotus helianthi* are shallow rooted plants with relatively brittle stems that require excellent drainage as well as protection from strong winds to avoid branch breakage. They have a relatively high fertiliser requirement and respond well to tip pruning following the flowering period. Older leaves on lower areas of stems will naturally die off and stay attached to the plant during the cooler months of the year. Flannel flowers can be grown in either full sun or partial shade and tolerate light frost once established.

A position with very good drainage should be selected. This can be achieved by providing a raised bed. For example, at the Australian Botanic Garden, Mount Annan, flannel flowers have been successfully grown in a mix of 40% coarse sand, 40% well composted pine bark and 20% loam. A moderately acid soil mix with a pH of 5.0 to 6.0 is advised.

Species of *Actinotus* are particularly sensitive to root disturbance and this should be avoided during the transplantation process. Avoid wetting the foliage to minimise possible fungal problems. Monitor watering during the warmer months of the year. Flannel flower leaves will 'clasp' the stem prior to wilting when in dire need of water.

Growing Flannel Flowers cont.

For best results it is suggested that the fertiliser program consist of 3-4 month slow release fertiliser with micronutrients e.g. Osmocote plus. Supplemental applications of a complete liquid fertiliser at 2-3 weekly intervals will assist with plant health.

Organic mulch to a depth of 75 mm assists with moisture retention and temperature control in the root zone. Avoid contact with stems to minimise possible fungal problems. Tip pruning after flowering is advised to create a bushier plant with increased flowering sites for the following season. Persistent dead leaves can be hand removed to assist in fungal control.

When planted in garden beds *Fusarium* can become a major problem, with plant death resulting. Plants with good root systems are less susceptible to *Fusarium*. Avoid planting out root-bound plants and minimise root disturbance.

Flannel flowers are quite susceptible to *Botrytis* during moist weather and should be monitored and treated with appropriate fungicide if necessary. Fungal problems can be minimised by avoiding foliage wetting during irrigation and by periodically removing dead leaves from lower areas of the stems to improve air circulation.

Flannel flowers can also be affected by leaf chewing caterpillars. Monitoring plants for evidence of insect frass should be carried out to avoid major pest infestation. Scale insects and mealy bug can also become a problem in crowded situations.



PlantBank, Mt Annan, cloning *Actinotus helianthi*

Pruning Hybrid Waratahs

Ed: I sent out an email to members recently asking them to comment on my experiences with pruning hybrid Waratahs. Here's what I wrote:

I have found that when I cut the flowers off for arrangements many of the cut stems do not shoot from below the cut and tend to become unsightly woody sticks on the plant. The hybrid waratahs at Cranbourne BG in Melbourne seem to shoot from the cut stems. Is there a trick to this? Is the application of blood and bone at cutting time critical? The horticulturalist at Cranbourne seemed to think that pruning was an essential aspect of hybrid waratah management. I got the following responses.

Margaret Lee SA

I think pruning is helpful to keep bushes shapely and to assure a good supply of flowers. I usually cut with fairly long stems – back to a shoot which will go in the right direction and produce flowers the following year. I do this with both hybrids and selected species. Some years I've missed fertilizing completely. This doesn't seem to make a great deal of difference.

I planted a number of new Shady Lady white and yellow a couple of years ago and cut about 5 flowers off each in October. They now have several new shoots immediately below each cut. I will leave two of these and rub off any others.

Lindy Harris Vic.

I'm no expert but have always considered that waratahs require diligent pruning to achieve and maintain a bushy shape. The more branches the more flowers so pruning takes discipline but is well worthwhile.

I see it as more important to develop multiple branching in the early stages and am personally happy to forfeit flowers for a couple of years or more in order to achieve this.

Warning: Turn your back on young waratahs for a minute and the plants will quickly produce 60cm of lush new growth which will be an emotional challenge to prune. I think you need to be tough to grow waratahs!

Lindy Harris cont.

I tip prune young plants when they first go into the ground and then like to cut back new stems by at least a third as they grow – this takes a lot of discipline as the new growth on waratahs looks so lush and vulnerable. I do it anyway and the plants keep pushing new grow out laterally as well as vertically so it seems to work.

We've been planting many more waratahs in the garden and will prune, prune, prune. We have a group of mixed *Telopea speciosissima* forms growing in shade under mature Messmates at Karwarra which had a loose 'skirt' of bushiness to around 1 high but had then put up long, tall and woody spear-like branches to around three or so metres. My feeling and experience is that once you have to saw into stems that are more than an inch across rather than use secateurs or loppers when pruning back, things get risky. Sometimes lateral growth results but I've noticed that these thicker cut stems often die back.

Taking the cautious approach, I cut the tall 'spears' to the base and cut every second branch in the surrounding 'skirt' of foliage by about 30cm. I left the plants to recover and just recently, finished the job by tidying up the odd dead or untidy branches, pruning off the old flowers and cutting back further into some thin branches, always just above a leaf. Some of the lower branches died back and have been recently removed, but most have responded with lateral growth. There is still a way to go with the rejuvenation of these plants and they'll probably never become really shrubby in this challenging location, but they look much bushier now and should produce more flowers in future. They'll be pruned once a year from now on just as the flowers begin to turn. This so far, has been a three year project.

About 8 months ago I pruned a leggy three metre, three main stemmed waratah in the garden to three 30cm high branches and have been watching with interest to see what happens. It is growing in perfect mountain soil, morning sun and filtered sun into the afternoon. Part of me wants this plant to die because it spoils the

look of this particular garden bed but I'll be thrilled if it re-sprouts as it will then be bushier and will probably not look so ghastly as it did in its lanky form. I'll keep you posted on what happens but I should have cut it right back down to the lignotuber. Still, the stems remain green.

In my home garden my husband and I had an interesting 'relationship' when it came to pruning our three waratahs. For him it was a joy to see flowers scattered on the tips of tall 3 to 4 metre stems on one hybrid waratah. For me, all I could see was a healthy tall but narrow plant with a very healthy lignotuber just itching to respond to a stern haircut and with the promise of lots of branches and a year or two later...lots more flowers.



Pruned hybrid waratah at Cranbourne BG showing two side shoots from just below the cut.

Photo: M. Hitchcock

Because he loved this particular plant so much and because I suspected he'd leave me if I pruned it, I left it alone and we had lots of laughs about our differing approaches over the pruning. I pruned some of the other, smaller-growing plants in our garden and he let the 'Giraffe' do its thing. Sadly the drought and some garden alterations finished off all of our waratahs at home over the last five years.

A little good quality blood and bone just after flowering, well-watered in is what we used at home with good results. Slow release native Osmocote when we first plant is what we use at Karwarra.

Actinotus schwarzii

Edited from The National Recovery Plan
Department of Natural Resources, Environment,
The Arts and Sport, Northern Territory

The Desert Flannel Flower is a small, erect daisy bush. It has showy white flower heads, with pale yellow centres. Soft, densely-woolly down covers its chrysanthemum-like leaves and stems, and its fruits are covered in silky hairs. The Desert Flannel Flower has only been recorded in the Chewings and Heavitree Ranges in the West MacDonnell Ranges. Its favoured habitat, sheltered gorges and steep south-facing precipices, also occurs in the Petermann Ranges, where the occurrence of the species is as yet unverified. There are less than 20 known locations.

The sheltered habitat optimises soil moisture retention through the provisioning of shade and low evaporation rates. Some level of fire management may be required in neighbouring habitat to reduce the chances of uncontrolled wild-fire incursion, but fire is otherwise not of immediate concern for this species. Flannel Flowers are highly sought-after attractive plants that have additional value as ingredients in natural therapeutic products. Certain species (e.g. *A. helianthi*, see von Richter & Offord, 2000) are thought to be at risk from over collection of wild stock. It is possible that accessible populations of *A. schwarzii* are being targeted by collectors. The species has recently been propagated from tissue culture at the ASDP so there would be opportunity to provide an alternative to wild harvest if collection becomes more intensified in the future.

Actions to be undertaken in the recovery process which will cost half a million dollars over five years include the collection of data on:

- population size and age-structure dynamics;
- fire responses of seed, seedling and adult life-stages;
- pollinator and seed disperser activity;
- flowering and fruiting timing;
- seedling establishment and attrition;
- insect predation;
- habitat condition especially in relation to weed abundance; and
- presence of other threatening processes.

- produce habitat maps
- search for additional populations
- collect seed and store in seed banks
- engage Indigenous ecologists
- improve the profile of the species in the community.



Actinotus schwarzii in the MacDonnell Ranges



Photos: C. Bate

Checklist of *Telopea* species and varieties (Recent additions are in blue)Species:

<i>Telopea aspera</i>	Gibraltar Range NSW
<i>Telopea mongaensis</i>	Braidwood Waratah - NSW
<i>Telopea oreades</i>	Gippsland Waratah - Vic.
<i>Telopea speciosissima</i>	NSW Waratah
<i>Telopea truncata</i>	Tasmanian Waratah

Pink Cultivars:

<i>Telopea speciosissima</i>	'Brimstone Pink' - Fire 'n Brimstone (Nixon)
<i>Telopea speciosissima</i>	'Brimstone Pink Passion'
<i>Telopea speciosissima</i>	'Shade of Pale'
<i>Telopea speciosissima</i> x <i>T. truncata</i> <i>lutea</i>	'Champagne' (Downe)
<i>Telopea speciosissima</i> x <i>truncata</i>	'Digger' - Wild Brumby (Fitzpatrick)
<i>Telopea speciosissima</i> x <i>mongaensis</i>	'Mallee Boy' - Wild Brumby (Fitzpatrick)
<i>Telopea speciosissima</i>	'Tutu'
<i>Telopea speciosissima</i>	'Clarence Pink'
<i>Telopea speciosissima</i>	'In the Pink' (Yellow Rock Nursery/Nixon)
<i>Telopea speciosissima</i> x ' <i>Wirrimbirra White</i> '	'Dreaming' (Fitzpatrick)

Red Cultivars:

<i>Telopea speciosissima</i>	'Ballerina'
<i>Telopea speciosissima</i>	'Brimstone Blush' - Fire 'n Brimstone (Nixon)
<i>Telopea speciosissima</i>	'Brimstone Early' - Fire 'n Brimstone (Nixon)
<i>Telopea speciosissima</i>	'Cardinal'
<i>Telopea speciosissima</i>	'Corroboree'
<i>Telopea speciosissima</i>	'Corrakee' (Karwarra Gardens)
<i>Telopea speciosissima</i> x <i>oreades</i>	'Emperor's Torch' - Ausflora Pacific, Gembrook Vic.
<i>Telopea speciosissima</i>	'Fire and Brimstone' - Fire 'n Brimstone (Nixon)
<i>Telopea speciosissima</i>	'Fire 'n Ice' (Roy Rother, Emerald Vic/Downe)
<i>Telopea speciosissima</i> x <i>oreades</i>	'Gembrook' - Ausflora Pacific, Gembrook Vic.
<i>Telopea speciosissima</i>	'Green Bracts'
<i>Telopea speciosissima</i>	'Mirragon'
<i>Telopea speciosissima</i>	'Olympic Flame' - Mt Annan (Cathy Offord)
<i>Telopea speciosissima</i>	'Red Centre'
<i>Telopea speciosissima</i>	'Roger's Red' Gordon Meiklejohn (Brimstone Waratahs)
<i>Telopea speciosissima</i>	'Songlines' - Yellow Rock Nursery, Winmallee NSW
<i>Telopea speciosissima</i>	'Starfire' Gordon Meiklejohn (Brimstone Waratahs)
<i>Telopea speciosissima</i>	'Stringers Late'
<i>Telopea speciosissima</i>	'Sunflare' - Mt Annan (Cathy Offord)
<i>Telopea speciosissima</i>	'Sunburst' University of Sydney (Offord, Nixon, Goodwin)
<i>Telopea speciosissima</i> x <i>mongaensis</i>	'Braidwood Brilliant'
<i>Telopea speciosissima</i> x <i>oreades</i>	'Shady Lady Crimson' - Proteaflora
<i>Telopea speciosissima</i> x <i>oreades</i>	'Shady Lady Pink' - Proteaflora

Red Cultivars:

<i>Telopea mungaensis</i> x <i>speciosissima</i>	‘Canberry Gem’ - (Dougs hybrid/Canberry Coronet)
<i>Telopea speciosissima</i> x <i>truncata</i>	‘Sugar Plum’ - Wild Brumby (Fitzpatrick)
<i>Telopea truncata</i>	‘Tasman Red’

White Cultivars:

<i>Telopea oreades</i>	‘Errindundra White’
<i>Telopea speciosissima</i>	‘Wirrimbirra White’ (also marketed briefly as ‘Shady Lady White’ - naturally occurring <i>T. speciosissima</i> clone found in the NSW Water Board area by Thistle Stead. Link http://www.wirrimbirra.com.au/Wirrimbirra%20white.htm
<i>Telopea speciosissima</i> x <i>oreades</i>	‘Shady Lady White’ (improved) same as ‘Bridal Gown’ (Downe)
<i>T. speciosissima</i> x <i>truncata</i>	‘Snow Maiden’ - Wild Brumby (Fitzpatrick)

Yellow/Cream Cultivars:

<i>Telopea speciosissima</i> x <i>truncata</i> <i>lutea</i>	‘Shady Lady Yellow’ same as ‘Golden Globe’ (Downe)
<i>Telopea speciosissima</i> x <i>truncata</i>	‘Georgie Girl’ - Wild Brumby (Fitzpatrick)
<i>Telopea truncata</i>	‘St Mary’s Sunrise’
<i>Telopea truncata</i>	‘West Coast Yellow’

Checklist of Actinotus species and varieties

<i>Actinotus forsythii</i>	Blue Mts, NSW, Vic
<i>Actinotus gibbonsii</i>	NSW
<i>Actinotus helianthi</i>	NSW, Qld (Flannel Flower)
<i>Actinotus leucocephalus</i>	WA
<i>Actinotus minor</i>	NSW, Qld
<i>Actinotus moorei</i>	Tas
<i>Actinotus superbus</i>	WA
<i>Actinotus swartzii</i>	MacDonnell Ranges SA

Ref: Encyclopaedia of Australian Plants, Vol 2,
Elliot and Jones, Lothian 1982

Wikipedia also lists

<i>Actinotus bellidioides</i>	
<i>Actinotus glomeratus</i>	
<i>Actinotus humilis</i>	
<i>Actinotus omnifertilis</i>	
<i>Actinotus paddisonii</i>	Bourke NSW
<i>Actinotus rhomboideus</i>	
<i>Actinotus suffocatus</i>	