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# **NEWSLETTER**

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## Welcome

## to our new members Carol Drew

Dan Ossedryver
APS Blue Mts



Actinotus leucocephalus

Image: www.flickr.com

The West Australian Flannel Flower is very similar to the pink Flannel Flower which grows in the Blue Mts (A. *forsythii*) except that it has 3-5 cm wide, entirely white flowerheads and ten to fifteen woolly bracts fringed like small feathers. It flowers in summer. This WA endemic grows on or near granite outcrops, appearing in abundance after fires.

In this issue. . . Maria writes: p. 2 From the members p. 3 Palm Scale on waratahs Actinotus leucocephalus p. 4/5/6 Actinotus helianthi as **Cut Flowers** p. 6 Flannels as Pot Plants p. 7 Telopea mongaensis p. 7/8 Checklist of Telopea species p. 9/10 and cultivars Checklist of Actinotus species p. 10 and cultivars

encyclopaedia.alpinegardensociety.net/plants/Actinotus/leucocephala

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.

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#### Maria writes:

Since the beginning of the year I have been doing the rounds of speaking engagements with a presentation on Waratahs and Flannel Flowers beginning in Sydney at the first Saturday gathering of members in mid February. Over 120 people attended and I hope that this will lead to a revival of growing Waratahs in the Sydney area. Wouldn't it be great if all those Sydney McMansions had a stunning Waratah in the front garden? In Sydney I picked up 4 of those remarkable asparagoid T. speciosissima plants being grown by Brian Roach using seed from Peter Olde's plant. I had trouble bringing them through Sydney airport as I was randomly selected for an explosives check and the fertiliser in the potting mix gave a positive result. Fortunately the officer realised the situation and a second and third test outside my plastic plant bag proved negative. There was no way I was going to allow them to confiscate those precious plants. In Sydney I was also introduced to Lloyd Hedges who makes smoke water and sells it for the Menai Group for \$5.00 a bottle. He uses it to pre-treat Flannel flower seed very successfully. I bought a few bottles and tried them out. The first seedling germinated in 29 days. You can watch a video on Lloyd's method on <a href="http://www.youtube.com/watch?v=G62QriKAPKY">http://www.youtube.com/watch?v=G62QriKAPKY</a>

My Waratah and Flannel Flower postcards proved a real hit. As a result of this talk APS-NSW decided to focus only on Waratahs and Flannel flowers for their stand at the Royal Easter Show and they ordered 250 Waratah postcards to hand out. Apparently they sold over 150 Waratah plants. Next stop was Tamworth which has a much hotter summer than Armidale and could be a bit of a challenge for Waratahs. They were very interested in growing Flannel Flowers and my feedback tells me that their germination trials have proved successful. My next talk was in Canberra and was well attended. I took down some of the Wild Brumby varieties which I have been selling through my nursery and it was good to get feedback from Canberra members who are growing Waratahs successfully including the local T. mongaensis which features in this newsletter.

## 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.

## Subscriptions are due

I am sending out an invoice with this newsletter to anyone who will be unfinancial after June 30.

If you do not wish to renew, please let me know.

Members still unfinancial by August 31 will be taken off the list and you will receive no more newsletters.



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## From the members

## Lindy Harris writes:

I was out weeding in the garden where the 'remains' of the radically-pruned waratah that I mentioned I'd attacked at Karwarra is planted. I'd mentioned it in my comments regarding pruning explaining that it was lanky and looked awful in this particular garden bed. Well, it has started producing regrowth from the lignotuber and also all along the three 30cm or so stems. I'm thrilled as I did feel like a bit of a brute. Ain't nature grand!



Resprouting radically pruned Waratah

### Palm Scale on Waratahs

We had a very dry autumn this year and my waratah plants got water stressed. I noticed that I had a light infestation of palm scale on the plants and my autumn blooms were deformed when they started to open. I asked Frank Allatt of WIN for some advice. He suggested that I probably had palm scale which can be quite common in autumn. This is what he wrote:

Scale is difficult to control. However, from my experience, whatever treatment is used, it should be used early

before there is a significant manifestation. I look for scale when pruning and will sacrifice a shoot if there is a heavy manifestation, or if light, prune the affected leaves. All affected plant parts are quickly collected and burnt. If I have to spray, I use an oil plus an insecticide and in a few days check to see the results. Good Luck.

I started a program of spraying with Eco Oil (a registered organic miticide and insecticide, which controls a range of problem insects including scale, aphids, two-spotted mite, whitefly and citrus leafminer. Safe for use on vegies, as well as ornamentals, with no withholding period. Also safe for beneficial insects like bees, ladybeetles and earthworms). I sprayed at 10 day intervals on three occasions then followed up with Confidor. Hopefully I might have beaten it but will have to be vigilant.

White Palm Scale Pseudaulacaspis eugeniae is the common scale of waratahs in Sydney. it is a type of hard scale. Mature females lay in excess of 100 eggs. Eggs are laid under the female's body and are protected by the mother. Eggs hatch to crawlers (the dispersal stage) in 8-12 days. Crawlers are the only mobile stage in the life cycle of scale insects. Crawlers migrate to various sites on the plant, insert their needle-like mouthparts and begin to feed on the sap. They remain in the same spot for the rest of their life. Females pass through three stages (instars) and reach maturity in about 28 days. Males pass through four stages (instars) and emerge with legs and a pair of wings. They do not feed; their sole purpose is to mate with the females, which they vastly outnumber. As the female matures, she becomes an oval, bright yellow, feeding and egg laying body hidden under white, pear shaped armour.

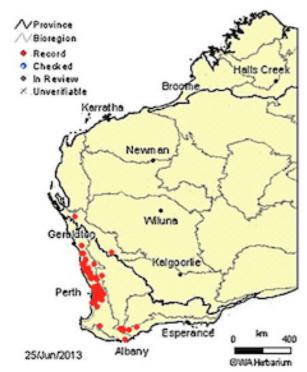
When spots (discoloured patches) appear on the upper surface of leaves, the lower surface of leaves should be checked for the appearance of the scales. Another indicator of scales is the presence of ants on the bush, particularly when the flowers are infested. The ants feed on the honeydew secreted by the scales as excreta, and they tend to congregate around the scales.

I am sending you all a copy of the fact sheet which Frank sent me. It has excellent photos.

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## Actinotus leucocephalus Benth.

#### Actinolus feucocephalus



Map: http://florabase.dec.wa.gov.au/browse/profile/6205

Actinotus is derived from the Greek, actino - rayed, star-like, radiating from a centre, while the species name, also derived from the Greek, means leuco - white and cephalus - headed.

Actinotus leucocephalus is endemic to Western Australia occurring in scattered populations along the west and south west coastline in the following districts: Albany, Armadale, Belmont, Beverley, Bridgetown-Greenbushes, Canning, Carnamah, Chittering, Coorow, Cranbrook, Dandaragan, Gingin, Gnowangerup, Gosnells, Greater Geraldton, Irwin, Kalamunda, Mundaring, Murray, Perenjori, Plantagenet, Serpentine-Jarrahdale, Shark Bay, Swan, Victoria Plains, Wandering, Wanneroo, Waroona, York.

White to cream flowers begin to appear in September and continue through to February, providing a contrast firstly with the vivid colours of spring and then a splash of cool in the intense heat of January and February. The inflorescence is

actually many flowers in a simple cluster contracted into a dense head, while what appear to be petals are woolly bracts. *Actinotus leucocephalus* enjoys a variety of soils and has a distribution from Yalgoo, and just inland from the coast to north of Albany on the south coast.



Photo: A. Ireland

In 1837 the species was described by George Bentham (1800–1884). A British botanist, he donated his herbarium of more than 100,000 specimens to the Royal Botanical Gardens at Kew, Surrey, in 1854, the director of the Gardens, Sir William Hooker invited him to establish permanent quarters at Kew. There, Bentham participated in the Gardens' definitive survey of floras of the British colonies and possessions during which time he produced the 'Flora Australiensis' in 7 volumes from 1863 to 1878), cataloging and describing more than 7,000 species in all.

Dormancy appears to be a problem with germination of *A. leucocephalus* seed. Breaking the dormancy has been a challenge and it appears that burial of the seed before treatment with smoke water might get the best results. I wonder if the same method has been tried with *A. forsythia* seed which has been impossible to germinate as far as I know.

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Like *A. forsythii*, *A. leucocephalus* responds to fire. This photo appeared on Flickr with the following caption:

The hillside was covered in these fluffy little flowers! This is where the fire went through last April.

## Growing Actinotus leucocephalus seed

In a paper by <u>Baker KS</u>, <u>Steadman KJ</u>, <u>Plummer JA</u>, <u>Merritt DJ</u>, <u>Dixon KW</u>. titled 'The changing window of conditions that promotes germination of two fire ephemerals, Actinotus leucocephalus (Apiaceae) and Tersonia cyathiflora (Gyrostemonaceae)' published in <u>Ann Bot.</u> 2005 Dec;96(7):1225-36. Epub 2005 Sep 30, the researchers set out to examine germination rates under a variety of conditions such as after burial, smoke water treatment and light and temperature variations.

The main aim of this study was to determine whether these fire-ephemeral seeds exhibit annual dormancy cycling during burial. This study also aimed to determine the effect of dormancy alleviation on the range of light and temperature conditions at which seeds germinate, and the possible factors driving changes in seed dormancy during burial.

Seeds were collected in summer, buried in soil in mesh bags in autumn and exhumed every 6 months for 24 months. Germination of exhumed and laboratory-stored (15 degrees C) seeds was assessed at 20 degrees C in water or smoke water. Germination response to light or dark conditions, incubation temperature (10, 15, 20, 25 and 30 degrees C), nitrate and gibberellic acid

were also examined following burial or laboratory storage for 24 months. In the laboratory seeds were also stored at various temperatures (5, 15, 37 and 20/50 degrees C) for 1, 2 and 3 months followed by germination testing in water or smoke water.



Image: www.gdaywa.com

## Key results:

The two species exhibited dormancy cycling during soil burial, producing low levels of germination in response to smoke water when exhumed in spring and high levels of germination in autumn. In autumn, seeds germinated in both light and dark and at a broader range of temperatures than did laboratory-stored seeds, and some *Actinotus leucocephalus* seeds also germinated in water alone. Dormancy release of *Actinotus leucocephalus* was slow during dry storage at 15 degrees C and more rapid at higher temperatures (37 and 20/50 degrees C); weekly wet/dry cycles further accelerated the rate of dormancy release. Cold stratification (5 degrees C induced secondary dormancy.

## Conclusion:

Temperature and moisture influence dormancy cycling in *Actinotus leucocephalus* seeds.

#### Source

School of Plant Biology, Faculty of Natural and Agricultural Sciences, The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia. katherine.baker@nt.gov.au

PMID: 16199485 [PubMed - indexed for MEDLINE]

Nindethana Seed Service currently has *Actinotus leucocephalus* listed for sale. Packets cost \$2.00 each. It is unknown how old the seed is and that could be a factor with breaking dormancy. If anyone wants to do some germination trials get yourself a packet, bury the seed in a fine mesh bag, wait until next autumn then dig it up and see if smoke water treatment helps to germinate the seed. It would be a fascinating exercise. I'll have a go myself.

Dormancy is a necessary mechanism to prevent seeds from germinating during unfavourable external environmental conditions. You can download this paper to learn more about it:

'Variation in dormancy among populations of the fireephemeral flannel flower, Actinotus helianthi' Nathan Emery, Catherine Offord, Glenda Wardle, Murray Henwood, Robyn Overall

Here is an article from Australian Plants Online which might be of interest.

## **Actinotus helianthi** as Cut Flowers Cathy Offord and Joanne Tyler

Flannel flowers are eminently suited for the cutflower market because of their long stems (up to 60 cm), colour, texture, and regular appearance. The foliage is a soft silvery grey-blue and attractively complements the inflorescence. Flannel Flowers have a long vase life which is important in the cut-flower trade. The vase life of one selection we picked was nearly two weeks.

Flannel Flowers are prone to stem air embolisms when cut. Embolisms may significantly reduce vase life and thus the stems must be placed directly into water after cutting. Blooms should be harvested when the lower flowers on the umbel are just beginning to open and the vase life may be extended by overnight treatment in 1% sucrose and 0.5% citric acid (Watt, quoted from Maddock,1990).

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Image: www.butterflyphilosophy.com.au

The Flannel Flower is very attractive in many sorts of floral arrangement and in particular makes a very useful wedding bouquet flower. It dries well if picked before the florets form seed and is very attractive as a pressed flower.

The flowering period is from August through to March with peak numbers occurring in September in some areas. We have observed that flowers produced earlier in the season are larger and more numerous. Over 200 inflorescences have been observed on one plant during the early part of the season. Harvesting these may bring on a second flush of flowers.

If the first inflorescence is pinched out early, a spray of blooms is produced on the main peduncle, similar to spray carnations. The result is very attractive and has great potential for the cut-flower market. It would also be a good way of presenting plants for the potted market.

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## Flannels as Pot Plants

Flannel flowers make excellent pot plants and they are well suited to grow on a sunny terrace or as a temporary house plant display. They can look a bit bedraggled around the base after the end of each growing season, but stripping the bottom leaves will rectify this. We use a mixture of sand, perlite and peat (10:4:3), and we are starting to use coir fibre as an alternative to peat. The proportion of coir used is less than peat because of the higher water holding capacity of coir. Other freely draining potting mixes could be used but care might be needed to avoid high levels or imbalances of nutrients. Pot plant nutrition is an area for further research. We fertilise the plants with slow release low phosphorus fertiliser (a 1:1 mixture of Nutricote Purple and Blue) and the occasional iron supplement at the recommended rate will avoid yellowing. If yellowing does not disappear then drainage is likely to be the problem. Flannel flowers may last up to three years in a pot if properly cared for.

## **Telopea mongaensis** Cheel Braidwood Waratah



Images: <a href="http://www.anbg.gov.au/telopea/telopea.mongaensis.html">http://www.anbg.gov.au/telopea/telopea.mongaensis.html</a>

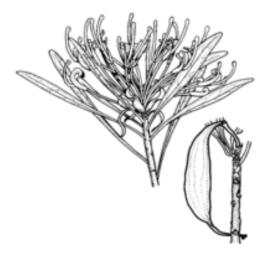


The Braidwood Waratah is was first described by Australian botanist Edwin Cheel in 1947 and named after Monga State Forest in the Braidwood district of NSW where it was originally collected on Sugarloaf Mountain. It grows naturally in cool wet fringing temperate rainforest or in wet sclerophyll forest, along the margins of streams or occasionally on mountain slopes, from between 540 to 760 m in altitude, on the escarpment from Monga to Fitzroy Falls. It is often associated with Eucalyptus fastigata, Eucryphia moorei and Dicksonia antarctica. Paul Nixon in his book 'The Waratah' (Kangaroo Press 1997), states that there is a rare population of T. oreades and T. mongaensis growing in the Eucryphia Flora Reserve in the Monga SF 20 kms E of Braidwood. The close association of these two species is unique.

Telopea mongaensis is a multi-stemmed shrub growing to about 6 metres in height. It also has an underground lignotuber from which regeneration of the plant can occur after bushfires. The species has dark green, somewhat leathery, narrowly obovate leaves which are not toothed and grow up to 16 cm x 5-20 mm wide with either an obtuse or acute apex. The glabrous branches may be rusty-hairy on young branchlets and at the tips of bracts. Flower clusters are terminal, occurring as flattened heads of a compact cluster of up to 65 individual red flowers with the upper flowers opening first.

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Like the very similar <u>T.oreades</u>, the inflorescences lack the conspicuous and colourful bracts of *T.speciosissima*. The involucral bracts are mostly I - 4.5 cm long, pink and/or green and the body of the follicle is 4.5–6.5 mm long. Flowering occurs in spring.



Telopea mongaensis seems to be reasonably adaptable to cultivation and well established plants are growing at the National Botanic Gardens (Canberra) and at the Mount Tomah Botanic Garden (New South Wales). However, it is not commonly available through nurseries and its adaptability to a wide range of climates is not known at this stage. Australian Plants Society members are growing it successfully in Canberra and it is being trialled in Armidale. The plant requires good drainage, moderate shade and regular watering. It is frost tolerant and has been grown in southern England where it was awarded an Award of Merit by the Royal Horticultural Society in 1980.

The cultivar 'Braidwood Brilliant" is a hybrid between *T.mongaensis* and *T.speciosissima*. Other hybrids with the same parentage are *Telopea* 'Canberry Gem' - (Dougs hybrid/Canberry Coronet) and T. 'Mallee Boy'. T. 'Mallee Boy' is one of Brian Fitzpatrick's Wild Brumby collection and is very hardy. T. 'Canberry Gem' may have died out. T. 'Braidwood Brilliant' is said to be very hardy and reliable and widely grown.

Propagation is best from seed which should germinate within 4-6 weeks if it is viable. No special pretreatment is necessary but seedlings are susceptible to damping off (a fungal disease) and need to be kept under observation. Cuttings can be slow to strike. One of the Canberra members sent me some seed which has now germinated. I put the punnets on my kitchen windowsill where it is warmer than out in the cold Armidale winter. It's best to germinate the seed in late summer to early Autumn.

Several Botanic Gardens are growing T. mongaensis such as Melbourne BG, Australian national BG in Canberra and Mt. Tomah BG. <a href="https://www.backyardgardener.com">www.backyardgardener.com</a> (a US website) has it listed as requiring a pH of 5.5 - 6.5 and sand or sandy loam in the garden or tub.

A research paper is listed on Wikipedia:

Parrish T.L. (1994) 'The Systematics of Two Species of Waratah, Telopea mongaensis (Cheel) and T. oreades (Muell.), Proteaceae', Honours thesis, The Australian National University

A search on Google brought up a publication by Ord Publishing (Germany) entitled *Telopea mongaensis* dated 2012 for sale at €45 which is largely a compilation of articles from Wikipedia and the web.

### References:

http://asgap.org.au/t-mon.html http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl. pl?page=nswfl&lvl=sp&name=Telopea-mongaensis

If you can add to this information or have experience growing *T. mongaensis* please email me your comments so I can add them to the next newsletter.

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## Checklist of Telopea species and varieties (Recent additions are in blue)

Species:

Telopea asperaGibraltar Range NSWTelopea mongaensisBraidwood Waratah - NSWTelopea oreadesGippsland Waratah - Vic.

Telopea speciosissima NSW Waratah
Telopea truncata Tasmanian Waratah

Pink Cultivars:

Telopea speciosissima 'Brimstone Pink' - Fire 'n Brimstone (Nixon)

Telopea speciosissima 'Brimstone Pink Passion'

Telopea speciosissima 'Shade of Pale'

Telopea speciosissima x T. truncata lutea 'Champagne' (Downe)

Telopea speciosissima x truncata 'Digger' - Wild Brumby (Fitzpatrick)
Telopea speciosissima x mongaensis 'Mallee Boy' - Wild Brumby (Fitzpatrick)

Telopea speciosissima 'Tutu'

Telopea speciosissima 'Clarence Pink'

Telopea speciosissima 'In the Pink' (Yellow Rock Nursery/Nixon)

Telopea speciosissima x 'Wirrimbirra White' 'Dreaming' (Fitzpatrick)

**Red Cultivars:** 

Telopea speciosissima 'Ballerina'

Telopea speciosissima 'Brimstone Blush' - Fire 'n Brimstone (Nixon)
Telopea speciosissima 'Brimstone Early' - Fire 'n Brimstone (Nixon)

Telopea speciosissima "Cardinal"
Telopea speciosissima x mongaensis "Corroboree"

Telopea speciosissima 'Corrakee' (Karwarra Gardens)

Telopea speciosissima x oreades

'Emperor's Torch' - Ausflora Pacific, Gembrook Vic.

Telopea speciosissima

Telopea speciosissima

'Fire 'n Ice' (Roy Rother, Emerald Vic/Downe)

Telopea speciosissima x oreades

'Gembrook' - Ausflora Pacific, Gembrook Vic.

Telopea speciosissima 'Green Bracts'
Telopea speciosissima 'Mirragon'

Telopea speciosissima 'Olympic Flame' - Mt Annan (Cathy Offord)

Telopea speciosissima 'Red Centre'

Telopea speciosissima'Roger's Red' Gordon Meiklejohn (Brimstone Waratahs)Telopea speciosissima'Songlines' - Yellow Rock Nursery , Winmallee NSWTelopea speciosissima'Starfire' Gordon Meiklejohn (Brimstone Waratahs)

Telopea speciosissima 'Stringers Late'

Telopea speciosissima 'Sunflare' - Mt Annan (Cathy Offord)

Telopea speciosissima "Sunburst' University of Sydney (Offord, Nixon, Goodwin)

Telopea speciosissima x mongaensis 'Braidwood Brilliant'

Telopea speciosissima x oreades 'Shady Lady Crimson' - Proteaflora
Telopea speciosissima x oreades 'Shady Lady Pink' - Proteaflora

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**Red Cultivars:** 

Telopea mongaensis x speciosissima 'Canberry Gem' - (Dougs hybrid/Canberry Coronet)

Telopea speciosissima x truncata 'Sugar Plum' - Wild Brumby (Fitzpatrick)

Telopea truncata 'Tasman Red'

White Cultivars:

Telopea oreades 'Errindundra White'

Telopea speciosissima 'Wirrimbirra White' (also marketed briefly as 'Shady Lady

White' - naturally occurring T. speciosissima clone found in

the NSW Water Board area by Thistle Stead.

Link <a href="http://www.wirrimbirra.com.au/Wirrimbirra%20white.htm">http://www.wirrimbirra.com.au/Wirrimbirra%20white.htm</a>

Telopea speciosissima x oreades 'Shady Lady White' (improved) same as 'Bridal Gown'

(Downe)

T. speciosissima x truncata 'Snow Maiden' - Wild Brumby (Fitzpatrick)

Yellow/Cream Cultivars:

Telopea speciosissima x truncata lutea 'Shady Lady Yellow' same as 'Golden Globe' (Downe)

Telopea speciosissima x truncata 'Georgie Girl' - Wild Brumby (Fitzpatrick)

Telopea truncata "St Mary's Sunrise"
Telopea truncata "West Coast Yellow"

## Checklist of Actinotus species and varieties

Actinotus forsythii Blue Mts, NSW, Vic

Actinotus gibbonsii NSW

Actinotus helianthi NSW, Qld (Flannel Flower)

Actinotus leucocephalus WA

Actinotus minor NSW, Qld

Actinotus moorei Tas Actinotus superbus WA

Actinotus swartzii MacDonnell Ranges SA

Ref: Encyclopaedia of Australian Plants, Vol 2,

Elliot and Jones, Lothian 1982

Wikipedia also lists

Actinotus bellidioides Actinotus glomeratus Actinotus humilis Actinotus omnifertilis

Actinotus paddisonii Bourke NSW

Actinotus rhomboideus Actinotus suffocatus