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# ISOPOGONS & PETROPHILES

The Association of Societies for Growing Australian Plants Isopogon & Petrophile Study Group Newsletter

ISSN 1445-9493

Number 10

July 2007

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*Isopogon mnoraifolius*. Garden specimen, Surrey Hills, Vic, October 2006.  
(See pages 5-6 for more details about this species)

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## EDITORIAL

Hello everyone and welcome to newsletter number 10. It's out a bit later than I would have liked, but things have been awfully busy around my place. Melbourne and the majority of southern Australia has had the most dreadful drought condition for a number of years now and this last summer was again one of the driest and hottest on record. Even supposedly drought tolerant, mature plants have been keeling over left, right and centre. I took photos of the *Isopogon formosus* and *Dryandra polycephala* on my front fence in October. Both were in magnificent flower.



Less than a month later both were stone dead. What a disaster! Melbourne's water reservoirs got down to around 27-28% and we are on stage 3A restrictions, meaning very little watering can be done in the garden. I know that there are plenty of you out there with worse water conditions than that, but it is pretty grim for a city the size of Melbourne. Luckily we have had some decent late autumn and winter rains, as well



as cooler weather. There is lots of snow in the highlands and with the spring melt, there should be decent flows into the rivers and reservoirs. On my home front, the garden has perked up and I think we are in for some bumper spring flowering.

One of the plants that never lets me down is *Isopogon anemonifolius*. I have a few plants of this species, including some of the compact cultivars. Last year each plant had hundreds of inflorescences and there are plenty of new



*Isopogon anemonifolius*- "woorikee 2000" What a beauty!! buds forming right now.

I'm looking forward to the ASGAP biennial seminar in Newcastle in early October and am hoping to catch up with any members who will be there. I'll be presenting a paper on Isopogons, on behalf of the study group, and perhaps will enthrall the masses to go out and grow these excellent plants.

This newsletter features an Isopogon from northern NSW, *I. mnoraifolius*. It is a great rockery specimen and seems to be reasonably hardy in cultivation. There are also updates from two areas of WA. I hope you enjoy it.

Well here's to spring and happy growing.

David Lightfoot ☺

## Members' letters and emails

From Neil Marriott, Stawell, Vic  
September 06

You should see my grafted *I. latifolius* –it is going to be a mass of flowers despite nearly dieing from the drought last summer. I noticed it going yellow and gave it a soaking and it recovered!! Now to keep it alive over the coming summer!! Have lost quite a few others including large plants of *I. formosus*, *Pet. squamata* etc due to the drought.

*I. latifolius* is certainly an amazing plant in flower, Neill. I hope it survived what was a terribly hot and dry summer. Ed

The following is an email exchange between myself and Sara Bright, from the Westonia community resource centre, Westonia, WA

September 06

Hi David, I came across your website providing details on the *Petrophile* and *Isopogon* species and thought that you might be able to help me. At our Community Nursery at the Shire of Westonia in Western Australia, we are looking at propagating *Petrophile merrallii*, *Petrophile stricta*, *Petrophile seminuda* and *Isopogon scabriusculus* from locally collected seed. Do you have any tips as to how we should go about propagating these plants? Would it help if we used smoke water/smoked vermiculite? Thank you for your time.

Kind Regards, Sara

*Hi Sara, Great to hear you're trying to propagate some of these fantastic plants. There has not been a great deal of work with them in terms of propagation. We have done some very small trials of smoked water that did not show an advantage, but it was on small numbers and really doesn't prove anything. I have tried the "sandwich bag" method (put seed in moist paper towel, that's put in a bread or sandwich bag in a warm spot. Seems to increase the speed of germination but you need to make sure the paper doesn't dry out) with reasonable results, but germination in standard potting mix is pretty good, though can be a bit slow. One of my members wrote to me about her method for Isopogons which seems to give good results.*

*"I cut a few old seed heads off, no particular time of year, preferably those that are starting to open up. I place them in a large envelope, seal it, and put them in a plastic box (containing mothballs), which I keep in the kitchen. In spring, it could be up to one or two years later (I often forget*

*about them), on opening the envelope, I find they have come apart. I put seed raising mix - 2 parts bush sand, 1 part sieved old, dry compost (grass clippings and kitchen waste) - in a punnet, cover with chaff (and seeds, hopefully), and cover with more mix. Keep punnet well watered until pricking out." The seedlings are very prone to damping off and snails though (esp. Isopogon seedlings and snails.) Let me know how you go. All the best, David*

Hi David, The NRM Facilitator here at the Shire of Westonia will be working with me to propagate these seeds. We decided instead of planting them in the commercial cell trays we would just plant them into flat trays and see how we go. We have ordered in some smoke water to use so hopefully that helps. We have recently purchased some propagation material including heat mats/trays. Do you think that using the heat mats to apply heat to them would increase germination?

Kind Regards, Sara

[Oct 06] *Dear Sara, How did you go with the seed germination? Has anything come up yet? Is your nursery open to the public or is it just for Shire purposes? Cheers David*

[Oct 06] Hi David, Well, I planted the seeds a few weeks ago (we decided to buy in some smoke water and I soaked all the seeds overnight) so far though no seedlings have popped up...but fingers crossed!!

The GroWestonia Community Nursery is open to the public, for anyone to visit. But, we are only in our second growing season so we are fairly unknown to the general public.

Usually we grow revegetation farm trees (biodiversity species) according to contacts that we acquire - which are usually for local farmers/land holders and small projects. However, at the moment we also have a variety of potted lavenders (French and Oiling), Silverbush, Purple leaf Mint bush and *Eucalyptus caesia*. These potted plants are available for sale to the public.

I will keep you posted on the developments of the *Petrophile* and *Isopogon* sp. and let you know when we start to see some popping up! Cheers, Sara

[June 07] Hi David, Yes, we had a couple of the *Petrophile seminuda* seeds pop up but that was about it! I pricked them out into normal cell trays and pretty much all of them survived that and are currently growing happily. They are a bit slow with

growing, but that doesn't matter too much. There were about 30 *P. seminuda* seedlings growing so that's good.

None of the *Isopogon* species germinated, but from the books that I read they are quite difficult to propagate. Also, we didn't have a normally warm summer so I don't know if that affected them, and we have not had any real rain for a while either, and I always notice how well seedlings respond to normal rainwater instead of scheme water but they haven't really had a chance this year!

But I will probably leave the trays in the nursery for a while and see if any more pop up along the way, but we thought it was a pretty ok effort, since we haven't grown them before and we are mainly used to growing the standard Eucalypts and Acacia's.

Cheers, Sara

From Ian Cox by email, Kenthurst, NSW  
November 06

Hi David, Thanks very much for the latest newsletter – the colour photos bring it to life!

In our garden we have a three-year-old grafted *Isopogon latifolius*. It has grown fantastically well so far and is 1.5m high and 1.3m wide and appears very healthy. Last year it flowered well. This year it produced about 30+ flower heads, which appeared to be well developed, but in the end they failed to open. Have you heard of this problem before? I was thinking of adding some potassium to the soil around next autumn to try and fix the flowering problem, but was wondering if this would affect the rootstock. I presume it is grafted onto *I. anethifolius*, which grows locally.

Best Wishes

*Hi Ian, I have run across this problem quite a bit. (see the editorial in NL9 on I divergens in my garden). It has also happened with I latifolius in my garden. I was recently at Phil Vaughan's amazing garden near Geelong and all his I latifolius had had the same problem. He had just had a terrible hot wind spell that knocked off a number of plants and seemed to have been the cause of the flowers aborting. I think that if the conditions are unfavourable the plant "decides" not to expend the considerable energy in flower production that season. (This is not based on any science but just my observation that it seems to happen in dry years and not in wetter years). I'm sure the K wouldn't hurt though (in moderation).*

*Glad you enjoyed the NL. Ed*

Thanks David. Yes, I think you are right – we had a few days of extreme temperatures in September,

and then soon after went back to wintry conditions. No wonder the plants get confused. Regards, Ian

From Bob O'Neill, Wandin, Vic  
June 07

The Isopogons are generally progressing well, though I have not had much luck in adding to the range of species, as I would have hoped. Presently it is a case of adding a few more of the same.

While walking about recently I saw the first flower heads in flower. The plants are generally in good nick.

The garden in general is looking very well, having coped with 900mm+ average rainfall reducing to 700mm, which was double Melbourne's official rainfall last year. Oddly, this reduction seemed to do some species more harm than good. We watered some 350 young plants and lost very few of them. Our losses in the older plants would have been no greater than for a normal year, which was food for thought for us.

I have the feeling that if we have less rain and more heat then essentially that means we make a few adjustments to plant selection and placement and life will carry on more or less reasonably. The loss here or there is no great problem, it just frees up a space in the planting program.

*Glad to here you've not had huge losses, Bob. I suspect being in the foothills of the Dandenongs means you catch a bit more rain than the plain dwellers like me. Please send us some photos of your spring flowering this year after the excellent early winter rains here in southern Vic. Ed*

## *ISOPOGON MNORAIFOLIUS* McGill.

*Isopogon mnoraifolius* was first collected in 1967 and not formally described until 1975<sup>1</sup>. It is named after the menorah, or Jewish candelabra, because of its distinctive leaf shape.

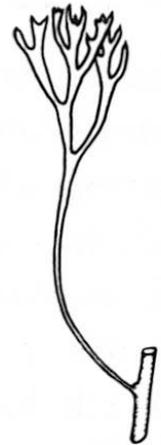


It has a fairly restricted distribution in the wild, but has been found to be relatively hardy in cultivation. Its small size, compact growth habit, intricate foliage and terminal inflorescences, make it an excellent garden/rockery specimen.

Most plants of this taxon grow to between 40 and 80 cm, although some can be up to 1.5m. The branches are covered in short hairs, especially when young.

When new, the leaves are red in colour and age to deep olive/green. They are extremely attractive, up to 10cm long and although

variable, (occasional leaves can be entire and linear,) usually have a petiole of about 2/3 their length. They tend to curve upwards, with the outer 1/3 divided and then sometimes divided again (bipinnate), leading to the candelabra-like appearance. The leaf segments tend to be pointed at their apex.



The inflorescences are held terminally and are often displayed in profusion. Flowering occurs in Spring mainly through September and into October. They are up to 4cm across, with each flower being 17-20mm in length. The flowers are creamy yellow and although glabrous at the base, are quite hairy towards their apex. The pollen presenter is deep yellow, ageing to orange. When flowering is over, the fruiting cone is ovoid to globose, and up to 22mm in diameter. They contain a variable number of 3mm drop shaped, hair covered nuts.



*I. mnoraifolius* is a rare species confined to the north coast of NSW. It is found in the Coaldale district NNW of Grafton, and on the coast from Angourie to Minnie Water,

<sup>1</sup> *Telopea* 1:31 (1975)

where it grows in open (sometimes damp) heath or at the edge of woodland. The soil types are sandy to clay loams.

It occurs further north than the more common *I. anemonifolius* (newsletter 2), and can be distinguished from that species in that it has creamy villous rather than yellow virtually glabrous flowers. Its inflorescences are similar to those of *I. dawsonii* (newsletter 7), however



its leaf segments are shorter and the plant's overall size is tiny in comparison.

The plant is not well known in cultivation, but can be found in some specialist native nurseries. It grows readily from cuttings and can be grown from seed. I am unaware if seed age or smoking alters germination rates. Its natural distribution in the subtropical, summer wet, NSW north coast suggests it should be more resistant to root rot than many other Isopogons. It has proven to be hardy in full sun on moderately well drained soils in metropolitan Melbourne. For best flowering and growth habit, I would recommend it be grown in well drained soils, in full sun and pruned back one third after each flowering.

## PETROPHILE NIVEA HISLOP & RYE

KATHY HIMBECK

*This article is from Kathy Himbeck, who is the A/Nature Conservation Co-ordinator for the Department of Environment and Conservation (formally CALM), Moora District. She has been counting and mapping P. nivea on the Williams' Hi Vallee farm, about 300km north of Perth.*



First collected by Mike Hislop in July 1999, *Petrophile nivea* is only currently known from one location and that is Hi Vallee farm, Badgingarra. The conservation status of this distinctive species

is Priority One. On the Hi Vallee remnant, this species is relatively common in the northern section of the remnant where it grows on white sand over laterite in a heathland that is very rich in Proteaceae. There are many other *Petrophile* species found in association with *P. nivea* and these include *P. aculeata* Foreman, *P. brevifolia*, *P. chrysantha* Meisn., *P. linearis* R Br., *P. macrostachya* R Br., *P. megalostegia* F. Muell., *P. scabriuscula* Meisn., *P. serruriae* R Br., *P. shuttleworthiana* Meisn. and *P. striata* R. Br.

*Petrophile nivea* is the only *Petrophile* in Western Australia to have 'snow-white' flowers, hence the name 'nivea'. This species also flowers earlier than other *Petrophile* species (May to July), providing very little overlap with the other associated *Petrophile* in the remnant. *P. nivea* has an erect, rigid habit and is quite distinguishable by its dense zigzag growth pattern, making it relatively easy to identify when not flowering.

In July 2002, surveys were conducted by Lesley Polomka and Sue Patrick in the hope of finding

some more populations of this relatively new species. The search areas were concentrated



around the north-east sections of Tootbardie Road and extending into the adjacent Unallocated Crown Land (Big Soak Plains) and Alexander Morrison National Park. No plants were found. This is the only formal search that has been conducted, but there have been many general flora surveys undertaken by knowledgeable professional and amateur botanists in areas of suitable habitat that have failed to discover new populations.

The future of this species is currently secure, as it is passionately managed by Don and Joy Williams on Hi Vallee farm. Further dedicated searches are required to try and locate more populations. If no further populations are found, considerations may need to go towards increasing the status of this species to a Threatened Species or Declared Rare Flora (DRF). Further work is required to ensure *Petrophile nivea* does not disappear from the landscape.



#### **Description**

*Petrophile nivea* is an upright, woody, rigid shrub growing from 0.4 – 0.6 m high and to a width of 0.3 – 0.4 m. The terete (cylindrical and slightly tapering) leaves are gently s-shaped, 10 – 15 long by 1 -1.5 mm wide with a slightly recurved apex and a pungent point. The blue-green leaves are crowded, concealing the branchlets. The small, pure white flowers are sessile and are found on the end of branchlets.

## *ISOPOGONS AND PETROPHILES AT DENMARK, WA*

MARGARET PIERONI

My garden; i.e. a part of the block that was cleared to make way for the house, set aside for a few plants I moved from Attadale (Perth) and some I have bought or propagated recently for painting subjects, contains a few Petrophiles and Isopogons. There are some local plants coming up among these 'introduced' plants but I intend to keep the rest of the block for the local plants only and I have propagated and planted out hundreds of these in the disturbed areas. The soil is gravelly and hard to dig but some plants do better than in the sands of Perth.

I have three plants of *Isopogon axillaris* – one about 60cm tall and two very small ones. None of them is thriving nor showing any signs of flowering yet.

The two *Isopogon cuneatus* have just finished flowering well for the second year. It does well here but was very difficult in Perth. If my plants do half as well as Tony Cavanagh's, I will be very pleased. [see NL 9 pg 8]

Last year, I bought two plants of *I. formosus* at an Albany Australian Plants Nursery. One was labelled '*Isopogon formosus*, Bluff Creek form'.

Bluff Creek is near Cheynes Beach, east of Albany. This plant is flowering at present. The leaves are much larger than typical *I. formosus* and the flower heads, at 4.5 – 5 cm across appear

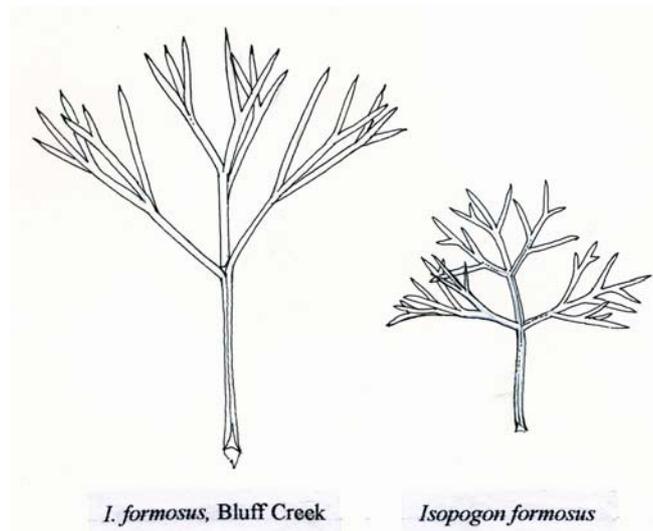


*I. formosus* “Bluff Creek” form

to be smaller. *I. formosus* won't be flowering for another few months. I wonder if this is an unnamed species?



*I. formosus* “Bluff Creek” form



The *Isopogon sphaerocephalus* that we saw growing beside the track at Mt. Hallowell Reserve has been hacked back to just one small branch when the track was widened recently. I haven't been able to find any seed of this one. I would like to grow some on my place as it grows close by.

A plant of what I believe to be *Petrophile filifolia* is doing very well since I planted it out. I bought it as *P. longifolia* but the leaves are very fine and it is shaping up to be a very neat, mounded plant.

I have lost all but one of the *Petrophile helicophylla* plants – the one I photographed last year. It is doing very well and at present has lots of lovely, reddish new leaf growth.

*Petrophile squamata*, only 20 cm high is in bud and I have three more that I grew from seed, to plant out.

I am running out of space now in the ‘garden’ but I'd like to grow a few more *Proteaceae* genera, because I can and because I enjoy painting them.

27/6/07

## GLOSSARY

Apex- The tip or top of something, especially something that is pointed.

Bipinnate- a compound leaf where the initial division of the leaves is divided a further time.

Genus- a group of species linked by similarities. The level of classification below family.

Glabrous- without hairs, smooth

Globose- ball or globe shaped

Inflorescence- a group of flowers arranged as a distinct entity

Laterite- a reddish clay like mixture of iron and aluminium oxides and hydroxides formed from the weathering of basalt.

Ovoid- elliptical in shape with the base broadest

Petiole- the stalk by which a leaf is attached to the rest of the plant

Pungent- a stiff, sharp point

Sessile- borne without a supporting part e.g. directly from a branch without a stem

Taxon- comes from taxonomy, which is the science of classifying organisms into groups. A taxon is a group of plants sharing a relationship and so are categorised together. It is a unit of taxonomy.

Terete- circular in cross section.

Terminal- at the end of a shoot

Villous- covered in long hairs

## REFERENCES

*Banksias, Waratahs & Grevilleas and all other plants in the Australian Proteaceae Family* by John W. Wrigley and Murray Fagg

*Flora of Australia Volume 16 Elaeagnaceae, Proteaceae 1.* Melbourne: CSIRO Australia

*Encyclopaedia of Australian Plants suitable for cultivation* by W. Rodger Elliot and David L. Jones

*Proteaceae of New South Wales.* Edited by Gwen J. Harden, David W. Hardin and Dianne C. Godden

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