



Southern African Bulb Group

www.sabg.uk

SABG Newsletter no. 49 August 2023

Newsletter Editor: Richard White richard@sabg.uk

Contents

SABG Bulletins.....	1
<i>Bulletin 48/1: several news items.....</i>	2
<i>Bulletin 48/2: joint order to Silverhill Seeds and web page discussions.....</i>	3
<i>Bulletin 48/3: Bulb & Seed Exchange and ordering from suppliers in South Africa.....</i>	4
Notices and Requests.....	5
<i>Books and papers of interest.....</i>	5
<i>RHS Plant Review / The Plantsman.....</i>	5
<i>Request for Haemanthus pumilio etc.....</i>	5
<i>Progress with joint orders.....</i>	5
SABG meetings.....	6
<i>The next SABG meeting.....</i>	6
<i>SABG Spring 2024 meeting.....</i>	6
Forthcoming peat ban.....	6
Thoughts on heating.....	8
SABG Committee.....	10

News

- ★ The 2023 Bulb & Seed Exchange is in progress
- ★ One or two SABG members are preparing joint orders open to other members

Dates for your diary

- ★ **Wednesday 30th August 2023: Deadline for Bulb & Seed Exchange requests**
- ★ **Thursday 31st August 2023: Deadline for joining Carl Garnham's joint orders**
- ★ Saturday 14th October: NAAS Exbury visit
- ★ Sunday 22nd October: SABG Autumn meeting

From the Editor

There are a couple of deadlines which are imminent – most of you will know about them, if you read your email, but I've listed them above as a reminder. Also there is a new book on Amaryllidaceae at a reduced price until 31st August, as mentioned later.

Talking of email, I've started a new series of email Bulletins which are introduced and described below. The contents of the three bulletins since Newsletter 48 are summarised later in this newsletter; some items could equally well be placed in the 'Notices and

Requests' section. Of course, both bulletins and newsletters require contributions from members – I am lucky that a number have been forthcoming! If you have something to say which might be of interest to other members, just let me know.

In this newsletter you can read about Anthony Murphy's quest for a peat-free compost, using his flourishing pet *Rhodohypoxis* as guinea-pigs. I'm not pining for winter to arrive just yet, but if you want to plan ahead you might be interested in some practical "Thoughts on heating" in this Newsletter from Carl Garnham.

Of course, further articles would be very welcome, with or without photos. Photos are always gratefully received, and in this edition I have included a couple from Uli Urban of *Amaryllis belladonna* cultivars.

As always, please let me know if any of your contact details have changed, so that you don't miss anything!

SABG Bulletins

After Newsletter 48 was circulated, I felt there was a need for a method for sharing short news items about current SABG activities which is more frequent than the newsletters. Of course, this was already done using

irregular emailed announcements, but by numbering them in a series of "Bulletins" it will be easier for members to keep track of them. In particular, as I occasionally receive reports of emails which have not arrived for various reasons, the numbering will alert members to any bulletins (and indeed newsletters) they might have missed.

These bulletins will not be printed and sent to members by post, but edited copies of them will appear on the web site and in the next newsletter, so that there will continue to be a permanent record of the news items, which will also thereby be available in due course to members who do not use email and receive printed copies of the newsletters.

These "preserved" copies will be edited before appearing on the web site (which is accessible to members and non-members alike) or in newsletters (which also go on the Web) to remove, update or summarise out-of-date, sensitive or personal information such as members' email addresses, postal addresses and phone numbers which might appear in, say, members' requests or announcements.

Because these bulletins may contain such personal contact details, please don't send them to people who are not members, or put them on public web sites, social media or other places where they can be seen by non-members.

If the following summaries omit details you might want to see, please refer to the original bulletin emails, or send an email to the person concerned, or to me if you don't have their email address.

Why have Bulletins as well as Newsletters?

In general, requests for collaborations which need to happen within a certain timetable will appear in the bulletins, and articles with information which is hopefully longer lasting and not constrained by time limits will appear in the newsletters.

By reducing the editorial effort required, compared with a Newsletter, Bulletins should be more frequent and therefore better able to keep members informed of matters which are more time-sensitive, such as the Bulb & Seed Exchanges. It may also help us to keep personal details more private, by not including them in newsletters which are put on the web.

There is also a concern that a few members who prefer to receive our newsletters attached to emails might miss them if their email provider is likely to block emails with large attachments. If this happens, those members would be alerted to the missing newsletter by the arrival

of the following Bulletin, so they can take steps to receive it, typically by downloading it from our web site. To reassure at least one concerned member, there is no plan to stop producing newsletters.

What's the difference between the Newsletter and a Bulletin?

- Both will be sent to members who have email addresses. Newsletters, but not bulletins, will continue to be posted to those who do not have email.
- Newsletters will be longer and less frequent than the bulletins.
- Newsletters will contain photos and will be either attached to, or linked from, emails sent to users.
- Bulletins will be relatively short and will not normally contain attachments, with a reduced risk of being blocked by over-zealous email providers.
- Bulletins will contain just text (and sometimes links to web pages) in the body of the email, and occasionally images (like the SABG Lachenalia logo) which are linked, not embedded "inline".
- The SABG Bulletin has no connection with the excellent colour-printed IBSA Bulletin! I just found the word "bulletin" when searching a thesaurus for an alternative name to "newsletter".

Bulletin 48/1: several news items

This bulletin was the first of what I hope will be a continuing series of short news emails, numbered to reflect the newsletter which they follow.

SABG meeting, Winchester, Sunday 2nd April 2023

Details were given for members planning to attend. Paul Lewis talked about his *Gladiolus* breeding programme. You can see his photos and blog articles on *Crocasmia* and *Gladiolus* on his website¹. In the afternoon we had a video of South African flowers and some photos taken at Gordon Summerfield's.

Request for the IBSA Bulletin

Ruth Prescott of IBSA (Indigenous Bulb Society of South Africa) asked for material to include in the forthcoming issue of the IBSA Bulletin (no. 62, July 2023), which has now been sent as a digital publication to IBSA members.

¹ <https://www.paullewis-plantbreeder.co.uk>



Amaryllis 'Fred Meyer's white' [Uli Urban]

Request for the SABG gallery

As some of you will hopefully have noticed, I have started a photo gallery on the SABG web site (<https://sabg.uk/gallery:start>). At the moment that page leads to Audrey Cain's "BulbWeb" photos and to the gallery itself, which at the moment only has some book covers relating to the auction. I plan to move Audrey's photos into the main gallery, and add photos I have acquired from late member Brian Ward. The Committee have suggested that it would make a fitting tribute if we could add pictures of plants you may have acquired from Bill Squire's collection, and plants grown from Rod & Rachel Saunders' seeds, so please consider whether you already have photos of these, or could take as and when they flower, for the gallery.

Suppliers of South African Bulbs

The UK bulb supplier **Jacques Amand** supply a huge range of species bulbs and garden varieties, including many South African species. They now have their Autumn Catalogue online². Click on "Autumn Planting" at the top to see the genera. The Spring Catalogue [mentioned in the bulletin] included 7 species of *Gethyllis* at around £50 per bulb (they also supply wholesale, ranging in price from £28 to £42 per bulb) and 24 species of *Massonia* at around £10 to £50 (wholesale £6.50 to £32.50 per bulb). Their Autumn despatch period for spring flowering bulbs is now on (August to early December). They attend many horticultural shows and welcome visitors.

Shire Bulbs supply bulbs mostly indigenous to the Eastern Cape, and have details of a large number of species with cultural information and photos – click on the family links at the top of their home page³.

² <https://jacquesamandintl.com>

³ <http://www.shirebulbs.co.za>

Bulletin 48/2: joint order to Silverhill Seeds and web page discussions

Silverhill Joint Order

As it has become necessary again for anyone in the UK ordering seed from Silverhill to pay for a phytosanitary certificate, costing £28, Jeremy Spon proposed to arrange another joint order from members, so that the costs of the phyto, and postage (and possibly also VAT?) can be shared. The aim is to get any seeds ordered to members well before the sowing time of September this year; full details of the procedure for the joint order were obtainable from Jeremy; the deadline for expressions of interest in joining the order was Monday 24th April.

Silverhill Seeds and Books have an online catalogue⁴: click on the name (not the picture) to see more and larger images.

Discussion sections on the SABG web site

As an experiment, I've added a "discussion" section to three pages on the SABG web site. You can find these listed at the bottom of our home page⁵. When you go to one of these pages, you'll find a box at the bottom to add your comment. You'll need to include your email address and real name. Suggestions for additions and constructive criticisms will be welcome!

These discussion sections are at present open to everyone, not just SABG members, and by their nature tend to attract "spam", which I will remove when I find it. In the meantime, as with any other pages on the Web, don't act on any suggestions, especially ones involving money, unless you are absolutely sure of the person involved. This is a trial, and if it's successful I'll add discussion sections to more pages where appropriate. If not successful I'll just close it down. If it's useful but attracts a lot of spam, I'll consider possible ways to improve things.

The response so far has been minimal, with one positive comment, a couple of spam entries which I have deleted and one which I have left because I am not sure about it.

Progress with the book auction

The email book auction has now closed. Bids were received for about half of the fifty or so books on offer. A list of the books which were being sold is still on our web-site⁶, but it has not yet been updated to show which

⁴ <https://silverhillseeds.co.za/product-category/seeds/bulbous-plants>

⁵ <https://sabg.uk>

⁶ <https://sabg.uk/sale:books:start>

books are still available. The books in the auction which remained unsold were available at the April meeting for members to inspect and purchase, along with a few more books for sale.

Bulletin 48/3: Bulb & Seed Exchange and ordering from suppliers in South Africa

SABG Bulb & Seed Exchange 2023

Jon Evans reported that the Southern African Bulb Group is running its Annual Bulb and Seed Exchange again this year. His list of donated bulbs and seeds was sent to SABG members by email (and by post to UK members) on 17th August. As noted on page 1, your requests should be sent to Jon to arrive by 30th August.

The full version of his announcement, including a description of difficulties in exchanging material with overseas members, is on the SABG web site⁷.

Jon said that he expects all orders for bulbs and seeds requested by members to be sent out by 8th September, so that they can be planted and started into growth in a timely fashion. There will be a further exchange later in the year for autumn ripening seed etc.

Shared orders to import from South Africa

SABG member Carl Garnham recounts some recent experience with imports for UK members from three suppliers (Lifestyle, Shire Bulbs and SABC), in which “one parcel was rejected by DEFRA who could provide no explanation for why; fortunately the seller re-shipped the order, even though the one that was rejected was shipped with the same documentation and by the same method as had been passed by DEFRA many times previously.”

He says that he will probably place orders with all three again late this summer/autumn. He explained “SABC usually issue their second list of the year in August, Shire has a constantly evolving list. Both are bulb-only suppliers. Lifestyle also has a constantly evolving list of bulbs, plants and seeds and starts to list seeds from winter-growers, many of them ephemeral, September-October, through into the early new year, so placing an order late in the year, and possibly again 3-4-5 months later, makes sense – it pays to check their website every 2-4 weeks.” For anyone interested, he will forward SABC and Shire lists when they are available [I’ve put the latest versions on our links page⁸] and canvas opinions for a Lifestyle order somewhat later.

7 [https://sabg.uk/ media/exchange:sabg-exchange-2023-announcement.pdf](https://sabg.uk/media/exchange:sabg-exchange-2023-announcement.pdf)

8 <https://sabg.uk/links:start>

Lifestyle has no catalogue, as such, but update their website stock list as items become available. To check what is new, go to the Lifestyle website homepage, select ‘shop’, then ‘fresh arrivals’ and then sort by date (left-hand side, towards the top). Their prices are frequently low for what you get.

If you are interested in any of the above ideas, please contact Carl, who will try to put together an order to share costs by contacting those who have shared the exercise before.

Importing plant material from the EU

This is also applicable only to UK members. Note that different opinions were expressed concerning the need for phytosanitary certificates (“phytos”) when importing living material from the EU into the UK.

Carl Garnham reports that “DEFRA [the UK’s Department for Environment, Food & Rural Affairs⁹] have extended the target date for introducing controls for import of plant material from the EU again, so UK residents are still free to import most things (exceptions are essentially some food crop species). Seeds need nothing at all, bulbs should be notified via PEACH, but no phyto is needed (as I understand things, but we are talking DEFRA here...)” He mentioned that a seed order he made in 2022 was stopped and checked by PlantHealth acting as agents for DEFRA. Presumably this was to check that the material enclosed was not anything prohibited.

In case you’re wondering what PEACH is, Carl explained that “DEFRA are in the process of moving from PEACH to IPAFFS. Anyone [already] registered with DEFRA will have received notification and details of how to transition from one to the other. [Now] anyone wanting to import should be looking to register via IPAFFS (PEACH does remain functional for at least the time being).”

Another SABG member was also interested in the possibility to help organise a combined order from Bert Zaalberg (see below); Jon Evans described his experiences with ordering from him as follows: “I have been ordering material from Bert for years ... But imports from EU now require a phyto which he can’t supply ... He was continuing to send to customers in the UK and last year many parcels got through, but they could be intercepted and rumour has it that Customs are getting more vigilant. This would make it problematic to do a joint order – individual customers can make their own judgements about the risk.”

9 <https://www.gov.uk/government/organisations/departments-for-environment-food-rural-affairs>

Bert Zaalberg's 2023 list of winter growing bulbs

Bert Zaalberg of Massonia.com reported on his 'Bulb list winter growers 2023', which can be downloaded from the contact-page on his website¹⁰, or through this link¹¹ [last updated 17 August 2023], and his Seed list which remains available at all times from this link¹² [last updated 25 August 2023].

He said "On my website I have pictures of most species offered. If you enter the 'Gallery' there is a search field to find the species you are looking for."

Notices and Requests

Some notices and requests were reported in the bulletin summaries above. I haven't quite sorted out how to arrange this potential overlap!

Books and papers of interest

In Newsletter 47¹³ I mentioned various books, including a couple which could be obtained at a reduced price from PostScript Books. Ralph Martin reminded me that "*The Genus Lachenalia*" by Graham Duncan is still available for £50¹⁴ from that source.

Meanwhile, as Jeremy Spon observed, NHBS has the "*Field Guide to the Amaryllis Family of Southern Africa & Surrounding Territories*" by Duncan, Jeppe & Voigt available for £35 instead of £50 until the end of August¹⁵. Jeremy said, and I agree, that this might be of interest as a cheaper alternative to "*The Amaryllidaceae of Southern Africa*" by the same authors, which weighs in at a hefty £125. Neither of us has seen the book, but from the description on the NHBS site, it appears to be an updated and more compact version and looks good value at this price.

The indefatigable Carl Garnham drew my attention to a number of academic papers on pollination mechanisms in some South African bulb genera in the Iridaceae family, including *Ferraria*¹⁶, *Hesperantha*, *Ixia*¹⁷, *Moraea*, *Sparaxis* and *Tritoniopsis*. They are free to download and read at academia.edu, but you need to

10 <https://www.massonia.com>

11 <https://www.massonia.com/documents/massonia-bulb-WG-catalogue.pdf>

12 <https://www.massonia.com/documents/massonia-seed-catalogue.pdf>

13 <https://sabg.uk/media/newsletter:sabgnews47.pdf>

14 <https://www.psbooks.co.uk/genus-lachenalia>

15 <https://www.nhbs.com/field-guide-to-the-amaryllis-family-of-southern-africa-surrounding-territories-book?bkfno=252791>

16 <https://www.academia.edu/58158709/>

17 <https://www.academia.edu/81884565>

register, or links are provided to use your Google or Facebook credentials to access them.

They may seem (and they are) very technical, but at least some of them have drawings and colour photos, and of course it's the pollination mechanisms which are responsible for the diversity in shape and colour that we see in flowers.

The papers are by well known authors including John Manning and Peter Goldblatt, and some date back to the early 2000's or even earlier. I haven't provided links to them all, as I don't know which ones may interest you, and I have the rest of this newsletter to finish(!), but if you follow one of the links I've given, and then click on related papers also listed, you will soon disappear down a rabbit-hole.

RHS Plant Review / The Plantsman

Alina Hughes is hoping to find a new home for her copies of the RHS "*Plant Review*" (formerly "*The Plantsman*") magazines, from March 2003 to date. Please contact her if you are interested in these (collection only from Devon or one of our meetings, as they are too heavy and costly to post).

Request for *Haemanthus pumilio* etc.

Jonathan Hutchinson tells me that Mikinori Ogisu, "a plantsman, who is a long time friend of Roy Lancaster" is seeking plant material of *Haemanthus pumilio*, in addition to *H. avasmontanus* and *H. tristis* as mentioned in an email I sent out in November 2022. I understand that he can do exchanges, and that a contact mentioned by Jonathan travels out to see him through his work and says that he is happy to sort out phytosanitary certificates. If there are any members that are able to supply this material, please contact Jonathan (I can give you his email address if you don't have it).

Progress with joint orders

There is some information on past, present and potential future joint orders in the Bulletin summaries above, especially no. 48/3. To bring things up to date, the deadline for participating in Carl Garnham's joint orders to Shire Bulbs and SABC is 31 August. He recently mentioned, to those already expressing interest, various goodies including *Boophone haemanthoides* (not cheap!) and *Lachenalia comptonii*. He also expects to be preparing an order to Lifestyle in early November.

In case you're wondering, SABC is not a typo for the name of our group, it's the SA Bulb Company¹⁸ run by J. & Leigh Nieuwoudt of Johannesburg (no, not

18 <https://www.thesabulbcompany.co.za/>

Nieuwoudtville, the self-styled Bulb Capital of the World!) Their latest list includes details and cultivation information (there are copies of this and the latest Shire Bulbs list on our links page¹⁹).

Colin Sykes is planning another joint order to Gordon Summerfield's, open to AGS and SRGC members as well as SABG members – please contact him if you are interested.

SABG meetings

The next SABG meeting

Our next meeting will be held on **Sunday 22nd October 2023**, at our usual meeting room in Winchester. Directions are shown on our web-site at <https://sabg.tk/meetings:next:start>. The doors will open at 10.00, and the meeting will close at about 14.30.

As usual, there will be a display table for any plants that you bring along for others to see. We will have time for some informal discussion during the afternoon, so that members can point out their plants and answer any questions. If you have any slides or computer images that you would like to show, please bring them along.

There will also be a sales table where you can offer material for sale, with a 20% commission to the Group to help with hall hire costs etc. Please include a second label in each pot, showing the price and your initials, so that we can settle up easily at the end of the day. Some books may be on sale on a similar basis.

There will be a lunch break from approximately 12.00 until 13.00, but many Members bring their own food so that they can stay in the hall and have the opportunity to chat to others and view the display and sales plants. Alternatively, the Sainsbury's supermarket is based on the same site.

As usual, the charge for the meeting will be £3.00 per person, payable on entry. There is no charge for parking, provided that you remember to add your car registration number to the list, usually in the main entrance hall and on the table just inside the entrance to our meeting room, to avoid any fine for over-staying.

SABG Spring 2024 meeting

The Spring meeting will be on a **Sunday in April 2024**. At present, we have provisionally booked the Spring 2024 meeting at the Badger Farm Community Centre in Winchester. More details of the meeting will follow in due course.

Forthcoming peat ban

In the early 1990s I acquired a couple of *Rhodohypoxis* at an AGS show, subsequently that number has grown (literally) to around 180 different ones including *Rhodoxis*. Looking back, I wish I had stopped at perhaps 50 or so selected ones, since many are very similar. Presumably my brain had got stuck on the genus. It also got stuck on compost. Whilst I was aware that other growers of *Rhodohypoxis* employed different mixes, my brain decided to focus on an article in the March 1994 AGS bulletin 'Rhodohypoxis Reflections' by Keith Clarke, which recommended using 75% moist sphagnum peat and 25% grit/sand. Ever since then that is the mix I have successfully used, averaging around only 1% losses annually, and those due mainly to incorrect watering when first coming into growth.

Fast forward to last year when I became aware that from 2024 peat will no longer be available to amateur growers in the UK. Indeed when I tried to 'stock up' on some earlier this year I found it locally unavailable. I did manage, however, to acquire what I needed from Forker's (forker.co.uk) which, considering the price which included free delivery from Northern Ireland, could have been worse.

And that brings me to the point of this piece. On 1st April this year, I decided to try a small experiment. Had I given it more thought, though, I would have included a wider variety of mixes, but it was a spur of the moment decision – basically to find a suitable alternative to sphagnum peat. This time my mind latched onto composted bark as an alternative. I took a tray of *Rhodohypoxis* 'Candy Stripe', all corms being derived from a single plant and divided them up into 8 different mixes, 4 pots of each, labelled 1-8. Number 8 was my usual mix of 75% sphagnum peat and 25% grit/sand. All the previous compost was removed, the plants had no flowers but buds were forming:

1:	2 x JI No 3 + 1 x grit + 1 x bark
2:	1 x JI No 3 + 1 x grit + 2 x bark
3:	1 x JI No 3 + 2 x grit + 1 x bark
4:	1 x JI No 3 + 1 x grit + 1 x sand + 1 x bark
5:	1 x sand + 1 x grit + 2 x bark
6:	1 x grit + 3 x bark
7:	1 x sand + 3 x bark
8:	1 x sand + 3 x moss peat

Note: The JI No 3 was from Keith Singleton which appears to contain a small amount of peat (any noticeable pieces were removed), but I'm guessing this would not have made a significant difference.

The photos below show growth on three dates.

¹⁹ <https://sabg.uk/links:start>

18th April (mix number one on the left through to 8 on the right):



These were taken on **26th May**:



And these on **12th July**:



Comments

My immediate conclusion is that I don't have one. If anything, it simply adds to the point above that *Rhodohypoxis* can be, as indeed they are, grown in a variety of mixes. If it were a horse race that had just started, I would say there were no clear favourites on 18th April. Moving forward to the middle part of the race (26th May), runner number 8 seems to be ahead of the rest of the field by a furlong (i.e. based on flower count), with numbers 1, 2, 5 and 6 following behind, jostling for position but still in contention. However, approaching the finishing straight number 8 seems to have faded (pun intended) whilst 1 and 2 are fighting it out for a photo finish (again, pun intended), with 6 and 5 close behind.

My second thought is that none died and all flowered, though not at the same time (I took other photos which

show this). Looking more closely at them, in my garden, not in the photos above, the mix I would be least inclined to use would be number 7, it just didn't seem to fully 'take off'. But any of the other mixes (1-6) I would be happy with – 1 and 2 seemed to produce good results. Obviously it will not be until later in the year when I come to re-pot them that I can assess whether there are any differences in the quality of the root structure. Anyway, importantly, panic off about peat sales being banned ...

Postscript – on second thoughts ...

Thirteen days later (**25th July**), I took the picture on the left which has caused me to change my mind about number 7 (the one I said I would be least inclined to go with) which is beginning to get going, whereas number 8 (standard compost) has faded. Interestingly, looking at my other *Rhodohypoxis* (all in the standard compost), at a rough guess I would say 80-85% have finished flowering for the year (indeed many finished some time ago), and looking back this seems to be par for the course every year.

So, my final thoughts on the matter are these: whilst *Rhodohypoxis* are not especially fussy anyway, I'm not going to use peat again (I had intended stockpiling it up for future use), instead I will be using composted bark – whatever the final formula exactly is.

Anthony Murphy

Thoughts on heating

What minimum temperature do people use in their greenhouses? What kit do they use, and why?

After an extended break from growing in the greenhouses, I began to acquire "significant numbers" of plants again 3 years ago. So far, most can be covered by a heated "cloche" on the greenhouse bench that is around a cubic metre and is just a timber (tile batten) frame covered in bubble-wrap, dropped over the bench. (During the coldest weather, I just added extra bubble-wrap over the top to get an extra degree or two of frost protection.)

I built a very small fan heater ages ago, to heat a smaller "cloche" that housed a small *Sansevieria* collection. That uses a 150w ceramic heater and electronic component cooling fan, and will provide around 10C (20F) increase in temperature inside the current cloche, over the "outside" temperature (actually the unheated greenhouse).

It isn't fancy and uses a capillary thermostat which, used as it is, has something like 2-3C hysteresis, which



is due to both the thermostat and the large thermal mass of the ceramic heater. [Hysteresis refers to the temperature over-shooting the thermostat setting when the heater is on and under-shooting when the heater is off. This is caused both by the thermostat itself, which may switch on at a lower temperature than it switches off, and by the lag in the temperature change actually reaching the thermostat.] Once powered-up, the fan runs permanently, so that the thermostat is effectively always monitoring incoming air temperature as long as the fan runs. Only the heater itself is on the fan heater's integral thermostat. I actually plug the thing into a simple plug-in thermostat in the greenhouse, outside of the cloche, set at around 8-10C, so that air starts circulating before any heating happens. The capillary thermostat in the fan heater is set at around 7C, so a frost of -5C produces a cloche temperature of around +5C, when the heater will be on permanently.

I have not tried any, but there are now very small 500W fan heaters available that could be near ideal in small enclosed volumes, when used with a good quality thermostat, although many thermostats on the market leave a very great deal to be desired. Most of them encase the sensor in a chunk of plastic, and plastic is a very poor conductor of heat, so the thermostat controls very poorly indeed compared to what any display on the thermostat itself might indicate. Just check using a simple and cheap digital thermometer fitted with a bare-wire thermocouple (as low a thermal lag/hysteresis as you are going to get). (It seems that most people really are suckers for any digital display, on anything – it **MUST** be correct!!! **WRONG**. There is also currently something of a quest amongst some, for a thermostat that appears to control to vanishingly small variations/range, for seed germination in particular of all things, which I completely fail to understand, on several different levels ...). [Many seeds need a diurnal variation in temperature to germinate.]

For seeds sown in early autumn which germinate quickly, the cloche or open greenhouse bench is fine as daytime temperatures will usually reach mid-teens to mid-twenties C with no heating and night temperatures will be high single figure C or slightly higher.

Once we lose day length and/or there is any cloud cover, daytime temperatures struggle to reach much over 10C in a greenhouse and quite a bit of seed seems reluctant to germinate. In these circumstances, heating pads, with or without an associated enclosed propagator on top, seem to be a common choice. I have to say that commercially produced heated propagators have always struck me as insanely expensive for what they are, so I have always made my own – heating pads or cables cost a small fraction of the price.

No matter the price or design, there will be variation in temperature; not least because the edges of any propagator, unless a very sophisticated design, will tend to be cooler, but also temperatures under pots/trays, where the heat cannot dissipate, may soar compared to the surface temperature of the uncluttered/uncovered warmed surface to one side.

To reduce the variation in temperature from pads and cables, they are best used covered in something like sand, although I use two layers of thick semi-rigid climbing plant support mesh, topped with a couple of sheets of newspaper to make the surface less uneven. I also place any mat or cable on top of 25mm thick expanded polystyrene sheet so that essentially all heat goes upwards.

I recently bought a basic warming pad, for simple convenience. It is rated roughly 10W/sq. foot. I covered it with a closely packed mix of 63mm and 75mm pots, all in poly bags as they were sown with seed, so the bags filled in a lot of the gaps between pots, restricting heat-loss. Just switched on and left, it produced something over 30C increase in temperature, above ambient, at the base of the pots, although random spots across the mat varied by 5-6-7C, not especially correlated with proximity to the edge or centre. Given the existing variation, plus the hysteresis that it would introduce, a thermostat would be pointless (where would the sensor be placed, just as an example), so I put it on a dimmer (a simple triac circuit, as used for compatible, generally incandescent, indoor lighting), and adjusted that to give around 12-15C increase over ambient at the hottest spot, under a pot. It is on a timer for 7 hours each day.

The temperature of the compost at the top of any pot obviously lags the temperature at the bottom of the pot as it heats after switching on the mat, and pots will obviously hold heat after the mat is switched off. Over the 7 hours that the mat was switched on, the top of the pots reached around 4-5C lower than the base of the pot, so around 10C warmer than ambient.

I must emphasise, all of the figures for the mat are with it covered with closely packed pots, in poly bags, which are not stood directly on the mat.

Equipment references

Just for illustration, in no particular order, no endorsement given, not necessarily the best or cheapest option, so hunt around and read the reviews! Many of the components that I use, I have owned for many a year, although the heating pad linked to, is the one that I bought recently.

Ceramic heater (note – this is more powerful than the one I use) - Ceramic Radiant Infrared Heater, 240 V:
<https://www.indiamart.com/proddetail/ceramic-radiant-infrared-heater-6275930730.html>

Fan - 230V AC 2 Pin Axial Fan - 119 x 119 x 38mm:
<https://cpc.farnell.com/multicomp/dp203a-21231sl-gn/fan-120mm-230vac/dp/MF67603>

Capillary thermostat - 1NC 1NO AC 250/380 16A 0-40C Temperature Control Switch Capillary Thermostat for Oven Refrigerator Heater:
<https://www.amazon.co.uk/Sourcingmap-Temperature-Control-Capillary-Thermostat/dp/B00902EX20>

Plant support mesh - 50mm Green Climbing Plant Support Plastic Garden Mesh 0.5m x 5m:
<https://www.amazon.co.uk/Climbing-Support-Plastic-Garden-Trellis/dp/B095SNVZ8T>

Plug-in thermostat - EconoHome Adjustable Thermostat - UK Plugin Heating & Cooling:
<https://www.amazon.co.uk/EconoHome-Adjustable-Thermostat-Heating-Compatible/dp/B09MXM6X8N>

500W fan heater - Orapink Small Electric Fan Heater 500W: <https://www.amazon.co.uk/Orapink-Electric-Overheating-Protection-Current/dp/B0BJDXTKHC>

Heating pad – Yi Xing Long Seedling Heat Mat 10" x 20.75" Durable Waterproof Seedling Heating Pad:
<https://www.amazon.co.uk/dp/B09BZLBNT1> (currently unavailable but alternatives are listed)

Heating cable - Finest-Filters Reptile Heat Cable for Vivarium 3m, 3.5m, 6m, 9m or 12m Models Available:
<https://www.amazon.co.uk/Reptile-Vivarium-Models-Available-Metres/dp/B015ON3X7O>

Dimmer - 1 Gang 2 Way Dimmer Switch, 400W:
<https://cpc.farnell.com/pro-elec/0401-2-400w/dimmer-switch-1-gang-2-way-400w/dp/PL14035>

Digital thermometer with bare-wire thermocouples – this one happens to have two channels and two K-type thermocouples (probes) are included – a huge range of alternative thermocouples, sheathed and unsheathed, plastic or glass-fibre insulated, of various lengths, are available for not too much money, just make sure that you choose the correct type, the commonest for general use being type K) - Proster Digital Thermometer Dual Channel with Two K- type Thermocouples:
<https://www.amazon.co.uk/gp/product/B071RNW2C6>

Carl Garnham

If you found Carl's thoughts on heating of interest and practical use, you can look forward to another set of thoughts from him on lighting; he has experience in the UK lighting industry and therefore can be presumed to know what he's talking about!

SABG Committee

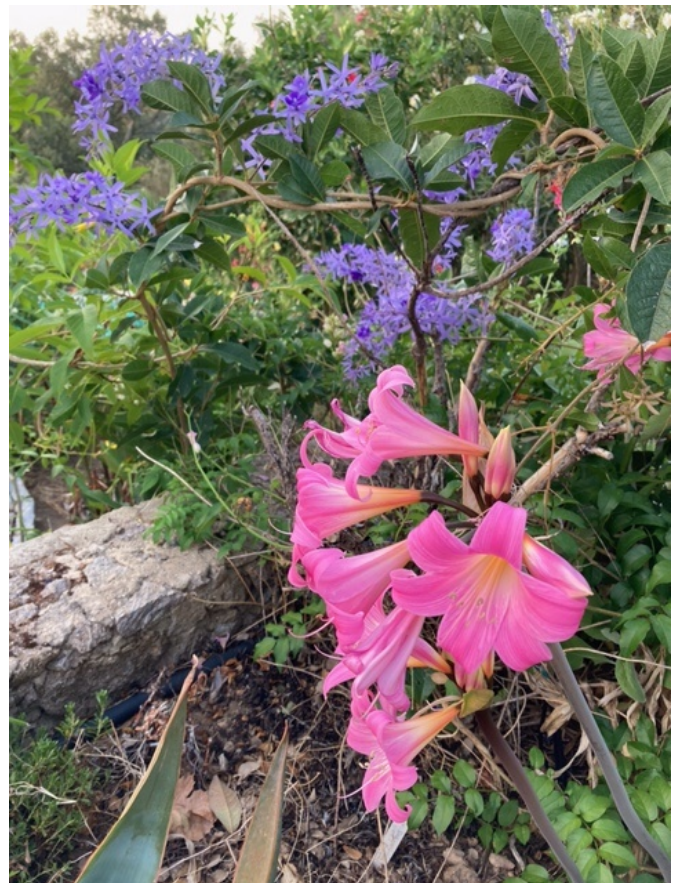
Paul Cumbleton (Chairman):
cumbleton@yahoo.co.uk

Jonathan Evans (Bulb & seed exchange):
jonevans46.uw@btinternet.com

Alina Hughes (Secretary & Membership):
abmhughes@gmail.com

Rodney Sims (Treasurer):
rodney.sims@tiscali.co.uk

Richard White (Newsletter & Web editor):
richard@sabg.uk



Amaryllis belladonna 'Rose Foncé' in front of *Petrea volubilis* [Uli Urban] (*Petrea volubilis* is a tropical climber in the Verbenaceae, not frost-hardy)