Primroses
The Quarterly of the American Primrose Society

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The purpose of this Society is to bring the people interested in Primula together in an organization to increase the general knowledge of and interest in the collecting, growing, breeding, showing and using in the landscape and garden of the genus Primula in all its forms and to serve as a clearing house for collecting and disseminating information about Primula.

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Front Cover: Primula megaseifolia, taken by Marianne Kuchel, of her plant grown from Terry Mitchell’s prize-winning plant in England, and winner in the category of “Grown in My Garden”.

Back Cover: A lovely pale yellow garden auricula grown and photographed by Judith Sellers, from seeds obtained from APS Exchange in 2010.

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Membership in the Society includes a subscription to Primroses, seed exchange privileges, password to the member’s only section of the APS web site (including the Pictorial Dictionary) and use of the slide library.

Membership in the Society is open to all who are interested in Primulas and related genera. Membership dues are:

- $25 per calendar year for individuals
- $50 per calendar year for non-members

Annual dues are due November 15 and are deductible January 1. Submit payment to the treasurer.

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Back Cover: Primula seioloidii, taken by Marianne Kuchel from Terry Mitchell’s prize-winning plant in England, and there were many photos posted on the Primula Lovers facebook page from Alaska, the East Coast and Europe. I have just returned from a trip to England, there were many gardens with blooming primroses.

We are changing our printer of the quarterly; quality has been declining so a new printer has been chosen. This, of course, is a step fraught with potential problems and delays. The editorial staff have done a great job in getting the quarterly ready for printing on time, so any delay can be blamed on the production team. That’s me and the new printer!
One of the treasures at Windsor Castle is the florilegium, or flower-book, painted mostly in the 1650’s – 60’s by Alexander Marshal. “It consists of 159 folios, now bound into two volumes, of exquisite watercolours depicting more than 600 different plants, native and exotic, as well as insects, birds and animals. It is the only surviving example of a florilegium, or flower-book, executed by a native botanical artist in England in the seventeenth century....” At that time the only way to capture images was by drawing or painting, so Marshal's paintings are valued today not only as works of art but also as visual historical records of great interest to plant lovers.

For the period in which he lived, Marshal is considered a major contributor in the field of botanic illustration, but surprisingly he never had training as an artist. Not many facts are known about his life, and there are few surviving documents. It is thought that he was born in 1620, and probably spent at least some of his early years in France, since he spoke French well and his writing reflected this. He may have learned about flower-books from living on the continent, because it was there, at the turn of the century, that florilegia were first produced. They took both written and manuscript form. Some were records of particular gardens, produced for the pleasure of their owners, and others, were, in effect, growers’ catalogs, advertisements for their wares, notably for tulips (the tulip scandal was in 1637). Marshal was certainly in England “probably sometime before September 1641”.

“He is described by his contemporary Samuel Hartlib as ‘a Merchant by profession... [and] one of the greatest Florists [who] deales for all manner of Roots Plants and seeds from the Indies and elsewhere.’” When he was first in England he stayed for a time with the

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3 Henrietta McBurney, “Marshal’s place in the history of botanical illustration”, pp 27 – 33, in Florilegium, p. 29.
celebrated gardener John Tradescant the Younger. Tradescant owned a famous garden and museum and held a royal appointment from King Charles I, for whom, among other things, he went on plant hunting expeditions to Virginia. Passionate about his garden, Tradescant published a list of all his plants and he commissioned Marshal to produce a pictorial record of them. Marshal spent several years on the project and completed the book (which has completely disappeared) in 1650.

By then Marshal was a well established horticulturalist with his own garden (and/or gardens). He never owned a permanent house, though his nephew said that he had “an independent fortune”\(^4\). He collected several hundred specimens of insects, giving him a reputation as an entomologist. Moving to various addresses, many near London, he hobnobbed with wealthy landowner gardeners, many of whom were engaged in the fashionable hobby of importing new species of plants from all over the world. Marshal also painted botanical watercolors and miniatures, apparently having taught himself by copying from miniaturists.

Few of these survive, though there are some now in the British Museum. However, given his background, perhaps it was inevitable that Marshal should decide to produce a florilegium for himself, and it is this for which he is famed. His illustrations give the reader an idea of what was flowering in Marshal’s own garden(s) and those of his friends 350 years ago.

As is typical of florilegia, it is arranged by season, starting with aconites and crocus and progressing to daffodils, hyacinths, and so on, usually several examples to the page, and in Marshal’s interpretation, focusing on the blooms. The paintings are precise and delicate, with fresh color. He had an innate eye for placement on the page, and is known for his artistic exactness, down to imperfect leaves and fallen petals. On the verso of the pages, Marshal identified the plants. The wonderful reproduction volume, *The Florilegium of Alexander Marshal*, published in 2000 (London, Royal Collection Enterprises), includes the pre-Linnean names used by Marshal, modern identification and some historical information.

Fourteen auriculas are illustrated in this volume, and the text includes, for catalogue entry 9 (p 56): “*Primula × pubescens* is a naturally occurring cross between *Primula auricula*, the yellow-flowered mealy-leaved plant, and *Primula rubra*, the non-mealy, rose-colored, white-eyed species. Although known to have reached England in the previous century, auriculas evidently were not yet grown in sufficient quantities to be given cultivar names; these only came in the beginning of the eighteenth century when there were more varieties. However, Marshal’s drawings demonstrate that a great many varieties were already being cultivated, with striped and double striped flowers proving the most favoured…” On p 60, one of the six captions reads “Striped varieties are first recorded in 1629 (Parkinson 1629, p 239.)”

Marshal added folios throughout his life.\(^5\) He was offered considerable sums for the collection, but he treasured it and refused to sell. He died in December 1682. His tombstone reads “…he left no issue, but, by reason of his integrity and gifts he will live longer than the life which was vouchsafed him…”\(^6\)

The collection passed to several owners before it was given in 1818 to John Mangles, who had it bound. He presented it to George IV in the early nineteenth century. It now resides in the library at Windsor Castle, in the collection of Her Majesty the Queen, and we are fortunate that it has been published in modern times as one of a “series of four catalogues of the Natural History drawings and watercolours in the Royal Collection” so that we can enjoy the exquisite paintings of Alexander Marshal.

\(^4\) Leith-Ross, p 20.

\(^5\) After his death the folios were bound.
New Developments in “Organic” Pest Controls

ILSE BURCH

Most everybody who reads the APS quarterly is growing plants. Primulas and auriculas and their like are a pretty safe bet. If you grow anything, you have problems with pests and diseases. And the more you have of any particular plant, like the Primula collectors that we are, the worse these problems tend to be. For Primula and related plants there are a set of common problems that practically everybody has to deal with. It is my hope that this article will supply gardeners and Primula growers in particular, with ideas for coping with these problems in a relatively non-toxic way. If you are reading this and you don’t grow Primulas, take heart -- most of these solutions will work on other plants as well.

It goes without saying, but I am going to say it anyway, that you should protect yourself from any spray or pest control even if it appears to be non-toxic. So wear the gloves, long pants, long-sleeved shirt, eye protection, dust mask if needed, and a hat and plan to take a shower soon after spraying. Don’t breathe in any dust – it is still an irritant even if it is not particularly toxic, and you can become allergic to anything. And you should always follow the directions on the bottle!

Fungus diseases are the most common problem, at least in my experience. The first and most important thing to understand about fungus, and also about just about every other pest, is that there are conditions that favor the development of each problem. For fungus, these conditions usually are too little air, and too much moisture. Also, too much fertilizer makes for weak plant tissues that succumb easily.

First, fix your environmental issues -- stop shallow frequent watering and put another fan into the greenhouse. And allow a bit more space between your plants.

Or move all your plants out of the greenhouse periodically and give it a good cleaning and disinfecting yearly in the fall before you move plants back into it (this last is a mainstay of gardening success!). This way you may cut down quite a bit on fungus troubles. But if you still have difficulty, you might try some of these relatively non-toxic treatments.

Botrytis, or grey mold is a particular pest of auriculas, especially when grown in the greenhouse. It is vitally important not to water in a way that leaves water standing on the foliage. Ventilation is key to prevention, but also be sure to remove dead foliage, flower stems, spent flowers, etc. as mold frequently gets its start on dead plant material, and once it gets going, it attacks perfectly healthy plant tissues. It is a particular trouble in over-crowded greenhouses. If you see the beginnings of an outbreak, consider moving the afflicted plants out of the greenhouse for awhile until you get things under control.

There are several “organic” fungicides available on the market. I personally use one called “The Green Cure” quite a lot. It comes as a dry white odorless powder that you can mix with water and spray on the plants. Think of it like baking soda on steroids. Last year I sprayed the plants before I put them into the greenhouse and had a lot less botrytis than usual. I have also used it to treat dogwood anthracnose with fair success. It needs to be applied frequently -- weekly is best. But it is pretty non-toxic which really appeals to me when I am spraying a tree -- it is very hard to not get covered yourself when spraying something that big.

If I only have a spot or two of botrytis and don’t feel like getting the sprayer dirty, I use cinnamon applied copiously to the infected area and around it, too, for good measure. Cinnamon and cloves are very good antifungals. And the cinnamon I am talking about is the cassia kind that is what we call cinnamon in the USA. Other countries use “real” cinnamon, and it is slightly different but probably still antifungal.

Yet another, and a surprising antifungal that appears to work very well on the powdery mildew that grapes get, is milk. Yes, milk. Mixed in a 1:10 solution and sprayed on plants that are in the sun, it seems to work well enough to be used on thousands of acres of grapes in Europe. The trick...
is the sunshine because a protein in milk turns very toxic to fungi when put in sunny conditions. Please refrain from taking a sip if you get thirsty while spraying because if I were to see you doing this I would probably faint!

Other promising “organic” antifungals are products like “Serenade” and “Actinovate” which are living biological fungicides. They are bacteria that eat fungus. Of course, they have a shelf life because they are living organisms, so be sure you get them while they are fresh, and toss them when they are outdated.

I have used “Serenade” and it seems pretty effective but it is so thick it won’t really go through my sprayer. So I just mix it up in a watering can and apply it that way. Another drawback is that it has a pronounced odor, sort of yeasty. Some people really do not like this but I personally just want the fungus to go away without killing myself in the process. I can tolerate a little stink, and I have to anyway because I use organic fertilizers and they truly stink!

I just bought some Actinovate and I used it as a drench on Hepatica to treat fungus that rots the roots. We will see if it is effective, but it comes highly recommended because a very good nursery in Washington uses it to treat their cuttings and they sell lovely plants (Far Reaches Farm in Port Townsend). Actinovate mixes up in a sprayer well and doesn’t cause a lot of clogging, and it has no particular odor, either.

Insect pests of Primula include spider mites, root aphids, and root weevils. Other critters can be a problem but these three are the most common.

Spider mites love to grow in a greenhouse where there are dry conditions, and some control can be done by just washing them off. I find by far the best treatment is Horticultural oil. It is simply a very fine oil that you mix with water and spray onto the plants. It suffocates the mites and to a certain extent their eggs too. It really works and is cheap and non-toxic. Sometimes you will have to spray several times at weekly intervals to get good control. The main drawbacks are that you don’t want to suffocate your plants by doing it too often, and also it is kind of hard on the beneficials. Be sure to follow the directions on the bottle and don’t use it in really warm sunny weather. If you worry about the plant, it is perfectly OK to spray in the evening and then wash the plants off in the morning, by then the dirty deed will have been done.

Root aphids are a real scourge, to be sure. You know you have them when your plants start to lose condition, yellow, and eventually develop a fuzzy collar of aphids. Or you can unpot one plant and see if you have the little devils on the roots. They are kind of waxy and it is not so easy to get rid of them. I have never used the alcohol that some folks use to treat root aphids, since I discovered that growing the potted plants in contact with the ground seems to control the little devils, at least in my garden. Something must prey on them when it can get into the pots through contact with the ground. Reasonably frequent repotting is another help. And it turns out that marijuana gets root aphids so I expect there will be some good, relatively safe controls in the near future. Nematodes would work under the correct temperatures (nematodes are very temperature specific). And I was reading about a product called “Azamax” (used a lot on marijuana’s various ills) which is refined from neem oil that is supposed to work on root aphids, and indeed on a lot of other insects when used as a drench. It is a growth regulator and “antifeedant”. The bugs lose their appetite and don’t grow up! Sounds good to me, and it is registered as an acceptable product to use in organic production, so it ought not to be toxic.

Root weevils, and specifically their larvae are another terrible pest. If you take a sickly plant by its leaf and gently tug, and it comes away without roots, the culprit is often root weevils. Digging into what used to be the healthy root ball of your plant you may find small c-shaped white grubs. It is hard to imagine that such a small critter can do so much damage! The adults are small hard beetles with elongated mouth parts (this is what makes them “weevils”). They use these elongated mouth parts to cut notches in all sorts of plant leaves -- rhododendrons are a particular favorite -- but also various other plants. If you go out at night with a flashlight, you can catch them at it, and if you squish them you can significantly cut their numbers. They are all female and they may lay as many as 100 eggs each. There are several varieties that can cause you problems and I won’t go into the differences because for our purposes it doesn’t matter. If you can keep the adults from laying eggs on your plants, that is a wonderful thing but it is easier said than done. I once knew a gardener who grew plants in hanging baskets to protect them from the weevils, and somehow they still got into his plants, (it was his conclusion that they dropped from above!) and they...
are way worse when they do get into pots or places that are off the ground because their natural insect controls cannot get to them.

If you are inclined to throw up your hands and use really toxic controls, I will be sympathetic but you should know that when you kill your beneficial insects, and you will if you use really toxic controls, you inherit all of their work. There are so many beneficial insects in the garden that eat aphids and other insect pests that it will be very hard to keep up with the result of killing all the beneficials. Those great big shiny beetles that run around your garden are the main natural control of root weevil larvae as well as slugs, which are another ubiquitous pest. Keep those big beetles! Pat them on the head and tell them what a good job they are doing! And use non-toxic controls for the weevils so you don't injure the beetles or yourself!

So what is a non-toxic control for the root weevil? The first one is to squish the adults. Every one you squish you ought to give yourself a treat! The nematodes ought to work when applied at the correct temperature into the root ball of afflicted plants. Azamax has a label that says it is effective on the black vine weevil and it is not unreasonable to hope that it will work on the others -- I plan to buy a bottle and give it a try. Another thing is to quickly repot when you see the plants looking bad or if you find grubs in the pot. Most of the Primulaceae are quite happy to be repotted whenever you feel like it.

This article covers what, in my experience, are the most common ills of Primulaceae. There are some virus problems, I am sure, but there is little to do about them but toss the affected plant into the garbage. Leafhoppers are great at spreading viruses to infected plants and should be gotten rid of ASAP. My personal nemesis is the emerald green leafhopper which leaves a terrible swelling when it bites me so I squish them on sight!

If you are actually still with me after all this, thank you! I hope that this article helps you to have the garden of your dreams in good health for many years. And there are more of these non-toxic controls in the pipeline. Take heart, and remember -- to use a phrase from the Red Green Show -- we are all in this together!

Larry Bailey’s Slides

NOTES BY MAEDYTHE MARTIN

In the summer this year (2014) Jay Lunn received a lot of slides from Larry Bailey, former editor of the APS quarterly and long time member of APS. Most importantly to me, Larry brought back auriculas from England and ran a little nursery, selling offsets from these plants in the late 1980s and early 1990s. I bought a few: an old green ‘Fleminghouse”, an early stripe ‘MacBeth Stripe’ raised by Allan Hawkes and a couple of others. These meant a lot to me, and I started my striped auricula breeding program with ‘MacBeth Stripe’ and ‘Dusty Double’ from Cy Happy – but that is another story.

Larry included some notes on the slides for Jay:

“The enclosed are some 35 mm slides that I took over the years that should be of some interest to the American Primrose Society. They include a lot of the named auriculas and other primula, APS shows and the winning plants, a couple of the English shows and English growers, trips to find native Primula, and gardens.”

“I did take a few trips to England to visit and on business. On two of the trips I got to Auricula/Primula shows (one in London and one in Manchester); I was honored and humbled to be appointed an honorary Judge in Manchester.”

Larry had a number of images of people, as well as plants.

In this group of slides, “that one holding the copper water can is me (I think it was for the most points at the National Show, held at the Center for Urban Horticulture on the U. of Washington campus, ca. 1985?).

“The fellow holding the flowers is Earl Welch. Not known by many APS members is the fact that Earl was a very accomplished wood carver, especially wild ducks, and won national awards. I am very fortunate to have a pair of Ruddy Ducks carved by Earl. Earl grew his own ducks for many of the subjects.”
“The fourth fellow is Kevin Michael Nicolay (below) who died in July 1990 at the age of 33. Kevin was known throughout the world for his art and horticulture, especially in the US and England. Truly, a Renaissance man, Kevin had an encyclopedia knowledge of cuisine, art, literature, horticulture, fabrics and weaving. He was a member of the APS and did give some lectures to the Seattle groups. His most famous paintings were of very large bouquets of spring and summers flowers that he usually grew himself. Before he died, he was honored by a request to have an exhibit of his botanical art at the Royal Horticultural Society in London. Sadly, he died before this could be arranged.”

In another group of black and white images, Larry captured more APS people. “The attached are photos, scanned from the B&W negatives of the 1982 APS Annual Picnic at Herb and Dorothy’s Chehalis Rare Plant Nursery in Chehalis, Washington.”

These included a picture of Herb Dickson (facing column) in a cowboy hat.

Gosh, when I think about 1982 it really doesn’t sound all that long ago to me, these people were as fresh as I remember them; except it was 34 years ago!”

Jay and Larry wrote back and forth about the technicalities of improving the images, and Jay mentioned, at one point: “You have a lot of information written on the mounts of many of the slides, so that is great.” This is a most amazing historical resource and APS, and Jay and I, for two, are very grateful Larry took the time to send these.

Just as a closing note, Larry visited Allan and Sheila Hawkes in 1981 (photo right). It wasn’t until 1996 that I met them and then visited them over the next half-decade until Allan died. Allan was very kind to keen auricula growers from “The New World” – I think they thought of us as from the “colonies” -- and gave me plants and listened and offered advice on growing auriculas. It is so nice to see them again in Larry’s picture.

Larry Bailey took this photo of Sheila and Alllan Hawkes in 1981. Allan re-introduced the striped auricula with his breeding program that spanned more than 15 years. One of his early plants, with the intriguing name ‘Lord Saye en Sele’ (below), was introduced in 1987. It was selected from a batch of Allan’s seedlings by the gardener at the estate of the Baron, Broughton Castle, near Banbury in Oxfordshire. Just how this came about is unknown, though Banbury is not far from where Allan lived.

Closeup of ‘Lord Saye en Selle’ above provided by Barnhaven Primroses.
Larry was able to attend a few shows in England and was fortunate, in 1981, to be invited to go around with the judges, one of whom was the famed auricula grower, Gordon Douglas (leaning over the show bench, above). This was a great honor. The grey-edged auricula below was one of the fine plants seen at the show in 1982.

Top, APS member Ed Welch’s handsome red self auricula, taken by Larry in 1983.

Center, Larry’s greenhouse bench full of auriculas in spring 1983. and bottom, a yellow self auricula ‘Sunflower’ taken by Larry in 1983.
Raising Primula from Seed

Jeanie Jones in Scotland raises lots of *Primula* seed every year. This is her seed bed (top) with last year’s seedlings planted out, earlier this year, and (bottom) what she calls the “Swamp Primula Bed.” One can raise a fine stand of candelabras without too much effort, as Jeanie has done (right). All these are from Jeanie Jones.

Right, Merrill Jensen sent this photo of one of the auriculas he raised from APS seed. Watch for the APS seed list to be posted on the APS website, probably late December, and get your order in early so you won’t miss the best selection.
Florilegium of Alexander Marshal

Housed at Windsor Castle, The Florilegium of Alexander Marshal gives us a glimpse into the past, and plants and flowers that were common at the time. The Primula shown are sometimes familiar, and we hope to keep the variety shown.

Exciting Perennial varieties from seed

Close-up of a page from the Florilegium, note the stripe in the bottom right corner. Credit to Windsor Castle Library: www.royalcollection.org.uk
Growing Primulas from Seed

Primula seed can be obtained from many sources including seed exchanges and commercial vendors. Unless you obtain seed from a friend’s garden or your own, it is unlikely to be fresh. Fresh seed usually germinates quickly at room temperature but seed that is several months old and dormant may be reluctant to germinate.

These are the methods I use to germinate Primula seed:

1. Room Temperature
   Pot is filled with moist seed starting mix, gently tamped down. Seed is sown on the surface with a layer of grit. The pot is watered from the bottom by placing it in a shallow dish of water. Remove the pot from the water and place it with others in a tray. I use a clear plastic tray cover to keep the humidity high. The tray is placed under fluorescent lights in a basement room where the temperature is cool (50-60 F). The air under the lid gets warm when the lights are on, but cools down once they are off. If the seeds don’t germinate within a month, then they go outside!

2. Cold stratify
   Pots are then placed in an unheated garage over winter. I don’t have to worry above the tray lid blowing off, or animals or weather disturbing the pots as I would if they were outside. The pots freeze solid and then experience repeated freeze/thaw in the spring. I can’t put the trays near a window in the garage, so I have a set of fluorescent lights that I use once the seeds start to germinate. I have also stratified seeds by placing them in a sealed plastic bag with a small amount of moist mix and keeping them in the fridge for 3 months before sowing them. I found this to be a bit fussy, so I don’t do it anymore. If you do, be sure to check the fridge periodically for germination.

3. Treat with Gibberelic Acid (GA-3)
   Seeds are soaked in GA-3, then sown using either method above. GA-3 has been used successfully on seeds of many plants to induce them to germinate.

AN EXCERPT FROM PRIMULAWORLD.COM

Seed Starting Tip:
Don’t sow the seed from one packet all at once. Save some in the fridge in case your first batch doesn’t germinate or suffers a disaster before plants can become established in your garden.
germinate. I have found that GA-3 does have a marked effect on *Primula* seed including quicker germination, eliminating the need for a cold period in some species and giving a higher percent germination.

**To Grit or Not to Grit?**

Whether you dress your seed pots with grit or not is personal preference. I sow the seeds on the surface of the seed starting mix, then add a layer of fine, sharp, granite grit over top. Just enough to cover the mix. I spray the grit with water containing a small amount of ‘No Damp’ fungicide. Some people put the grit down first, add the seeds on top and water them in with a fine mist. The grit keeps the surface humid and I don’t have problems with the seed leaves stuck in a dried up seed coat.

**Using GA-3**

I use washed, styrofoam egg cartons, lid removed and cut into 2 six-packs as my containers. I label each eggcup with a pen, using a different letter for each one. Seeds from one package are put into one eggcup. A label is made with the name of the seed and the eggcup letter on it. A very small amount of GA-3 powder is added - the amount that stays on the end of a rounded toothpick. 6-10 drops of warm water are added to each cup and the six-pack is carefully slipped into a sealable plastic bag to prevent evaporation. The seeds are soaked until they swell - no more than 1 day and often after a couple of hours. The seeds are fished out of each eggcup with a toothpick and sowed as normal with the pre-made label to identify it. Leaving the seed to soak for days or until the seed germinates in solution tends to produce elongated and weak seedlings. GA-3 is a chemical and must be handled properly. See your supplier for details.

**When should I transplant my seedlings?**

Some people transplant their seedlings as soon as the seedlings produce their first set of true leaves. I like to wait longer than that - until the primula seedling produces its first anchor roots. These are roots that appear from the base of the plant and above the main root. They are thick and white and not as fragile as the feeder roots that are produced off the main root. For very small primulas or those that seem to be slow growing, leave the seedlings in the pot even longer - until you have small plants. Handle them carefully by a leaf and keep root disturbance to a minimum while transplanting. Fertilize at half strength. Some primulas hate being in pots, notably *P. nivalis*.

_This text is excerpted from Pam Eveligh’s website PrimulaWorld.com. Please visit for not only more information on propagation, but also for her excellent photo reference._

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**How do you start your seeds?**

*The Editor surveyed growers in different geographic areas of the world to ask how they start their Primula seed. The questions asked were:*

- **How long and cold is your winter?**
- **When do you start your Primula seed?**
- **What medium do you use?**
- **Any comments about what works well for you?**

*Here are the answers. Maybe you will find a tip or two for starting your own seeds.*

**Michel Kuwahara, Seattle, Washington**

1. Our winters in the Seattle area are about two months long. Lately, the coldest weather has come in the late fall, around the end of November when for a week or two the nighttime temperatures can drop into the low twenties or upper teens Fahrenheit. Daytime temperatures, meanwhile will rise to the low thirties. This is bad timing as most plants are not yet hardened off for the winter. We seldom get snow that lasts very long – maybe a week or two.

2. I plant seeds in late January or early February and place the pots out of doors until early March. They are then brought in to a west facing window and covered with a plastic bag until the seeds start to germinate.

3. I use Cedar Grove Potting Soil (soil based) without any amendments. I plant seeds on the surface and give them a light covering of fine grit.

4. I try to individually hand sow the seeds so that the seedlings will not be crowded. I feel that it is a good idea to leave the seedlings undisturbed for as long as possible, often until late June. By then they are quite sturdy and adapt quickly to transplanting.

**Michael Plumb, Gulf Islands, BC**

1. First frost occurs about the beginning of November. It is warm enough in the spring that bedding annuals can be planted out from mid-May. The lowest temperature recently has been minus 14 Fahrenheit, but it usually drops no lower than 26 Fahrenheit. We sometimes get a skiff of snow in November or January but sometimes it stays for a week or more.

2. I start my seed in early January to give the seed enough chance to scarify and experience many
3. I use a seedling mix of fine peat and Vermiculite.

4. I fill small peat cells with the seedling mix, then place these in shallow trays with a transparent plastic cover. I keep the mix extremely wet until the seedlings have put out their second or third set of leaves. I never let them dry out or allow humidity to fluctuate much. I have always had extremely good germination this way. But I still can’t germinate Primula sieboldii!

Editor’s Note: germinating Primula sieboldii requires slightly different care than other Primula seed. First of all, seed older than 6 months will likely be dead and not germinate! Secondly, Primula sieboldii germinates as temperatures rise. One expert says sow at room temperature (65 to 70 Fahrenheit) for a few weeks, then move to cool temperatures (40 Fahrenheit) for some weeks, if not a couple of months, and finally the seed will start germinating when the temperature starts to warm up.

Patrick Healey, Manitoba Canada

1. Usually the ground is snow-covered (and temperatures mostly below 32 degrees Fahrenheit from mid-November to early April, but in a mild, dry winter this may be from December to mid-March. The coldest weather is usually in January: in the past minus 30 to minus 40 degrees Fahrenheit were common, but for the past several years it has rarely been below minus 30.

2. I keep Primula seed I have collected here in the fridge until some time in November, when little more can be done outside, and then plant them in pots. I plant seed from seed exchanges as it arrives, usually in January. All Primula seed gets three months cold (32 to 23 degrees Fahrenheit) followed by 50 to 60 degrees Fahrenheit for germination.

3. I use 1 part perlite to 2 parts peat moss to 2 parts soil by volume, with a topping of 1 part vermiculite to 1 part screened peat moss (1 ¼ inch mesh).

4. As important a factor here as winter temperatures are for survival of Primulas, summer drought and soil alkalinity are also important. Members of section Primula (Vernales) survive and in most years thrive, in moist parts of the garden. Most others grow well only in certain select spots, with soil amended with peat moss and sand.

Judith Sellers, New Berlin, New York

1. In USDA Zone 4b, we have a chance for frost any time from Sept 5th through June 5th. The coldest time is late January through February, when we often have minus 15 degrees Fahrenheit, and do not go above freezing for at least a month. The unkindest weather is in March and early April, when freeze-thaw cycles are unpredictable, and blizzards or ice storms are common. Our property is on a bluff, receiving plenty of cold wind and blazing sun, but only unreliable snow cover, so seed starting is mostly done indoors.

2. I “force” myself to wait until at least the first of the year, and usually plant between January first and February 15th. I do not test germination or pre-soak seeds; they go straight from the refrigerator to the pots.

Seeds from Sections Primula and Auricula are sown quite thickly into 4 or 6 cell packs, and left at about 55 degrees Fahrenheit in the basement with only dim window light for a week or even two. In spite of the advice that the seeds need light to germinate, sprouts usually begin to show in that time. They next go to an unheated but enclosed space adjacent to the basement, with window light supplemented by ordinary fluorescent tube lights (2 for every 4 flats of seedlings) to grow on. Temperatures fluctuate in the growing area between 33 and 50 degrees Fahrenheit, and the seedlings seem happy to grow slowly but sturdily in that environment. They are pricked out into individual 4-cell packs when their leaves touch (or when I get around to the task.) The primroses and polyanthus are transplanted to the garden during a cool spell in August, to give time for rooting-in before winter. The Auriculas spend at least another year in pots.

I start P. sieboldii seeds any time between February 15th and April first. No matter when I sow them, with or without weeks of...
stratification, they never seem to germinate before June, so must spend their first winter in cell packs under cover before they are large enough to be planted in the garden. They do well if planted out during May of the following spring.

For assorted species Primulas, I sow in mid-March, and follow the 6 weeks of alternating freeze/thaw advice. The flats are covered with screening, and left on a shelf attached under the eaves of the garage to protect the pots from marauders. Most eventually germinate with natural outdoor light and temperature fluctuation, as long as I remember to water before the pots dry out.

3. For the woodlanders, I use straight Pro-Mix BX (75% sphagnum peat, with Perlite, vermiculite, dolomitic lime, wetting agent and mycorrhiza added, without extra fertilizer). Auriculas and European species are sown in 1 part Pro Mix, 1 part “grower sized” chicken grit (crushed limestone, ranging in size from one-quarter to one-third of an inch), and 1 part Perlite for improved drainage. Seeds are sprinkled on top of the medium, and one layer of chicken grit is spread on top of that before flats are gently spray-watered from above, and covered for the first week with transparent plastic domes or cling film.

4. As I have never had luck getting polyanthus or primroses through a winter indoors in pots, they must grow large enough by fall to go into the garden. Some do not reach that size, but are set out with my blessing anyway, and a few make it through.

The ‘basement for 2 weeks’ method was discovered by accident about 6 years ago, when I had sown part of a flat, and been interrupted before putting it in a well-lighted space. Lots of the seeds, all from APS, many from Barnhaven, germinated in the week before I was able to resume sowing the rest of the flat.

Derek Salt,
Lincolnshire, England

1. Winter is normally cold from the end of November to the end of January, but it is so variable you never can be sure. In 2013/2014, some parts of the south had no frost at all, we had only two frosts, both down to 28 degrees Fahrenheit. (Three years ago we had minus 1 degree Fahrenheit.)

2. I start my Primula seed and auriculas the second week of January, polys and primroses in February or March. These days we don’t grow any species except P. simensis which we sow in March or April, but used to sow others as soon as we could get the seed. P. reidii is started in November if it is available. P. veris is started no later than October to take advantage of frost.

3. Medium: Six parts peat-based seed/cutting compost plus one part sharp sand. (I sometimes use multipurpose potting mix but the higher level of nutrient does not give good germination every time.)

4. What works well: Auriculas are potted in equal parts sharp grit, John Innes No.2 and multipurpose peat-based compost with some slow release fertilizer added. This does away with feeding and makes good plants every year.

Jeannie Jones,
Lockerbie, Scotland

1. How long the winter season lasts depends on the year: some years, like last year 2013 - 2014 we had virtually no frost and no snow. Others, 2010 - 2011 and 2011 – 2012, we had very hard frosts and snow. One year, our first frost was about September first and our latest one I have noticed was 27th May - but these two dates are very unusual. On May 6th, 2012 at 6 am it was 21 degrees Fahrenheit, I noticed, on my way to Edinburgh Airport to go on a SRGC tour of Turkey. So the answer is, it is very variable in South-West Scotland.

2. Some seed I sow as soon as I collect it. Others I sow as soon as I receive it from APS, SRGC, NAPS (Northern) and AGS. Usually I try to have all Primula seed sown by the first of January.

3. I mix my own compost using John Innes Seed mix, plus sharp horticultural grit and perlite for free drainage.

4. I put my compost into 3” square pots, top up with horticultural grit (sharp, not round, pea gravel), sow seed on top of grit and spray into crevices, place pots into water half way up the pot. Then I put the pots outside on a raised table in a large tray with charcoal chips in it, on a north facing wall, hoping to have some snow and wait and hope to have germination! I have heard that snow aids germination, but maybe that is an old wives tale? (I do not put any tender types outside, they go into my cold greenhouse for a bit of protection.) I prick out into trays as soon as anything is large enough to handle, and put them into my north-facing cold greenhouse, then plant them out into the nursery area, in rows like vegetables! Sometimes I use mycorrhiza, but I am not sure how much of a benefit that is. I keep the pots for at least another year if there is no germination - sometimes for two years.
Emma at Wild Ginger and Primula sieboldii

NOTES BY MAEDYTHE MARTIN

At the National Show, 2014, in Portland, Oregon, one exhibit that caught my eye was a pot of *P. sieboldii*. It was entered by Emma Elliot at Wild Ginger Nursery and I asked her about it.

You are right that I was inspired in my presentation by a display I saw online of a *P. sieboldii* show in Japan. The simplicity of the pot really appealed to me and I asked potter Stan Gibson, partner of rock gardener Terry Laskiewicz, to make some low, unglazed pots for me to use to try to recreate the look.

In the fall I planted pots with several cultivars, making sure to fill each with enough divisions to make a full display by spring. As you know, flowering time is unpredictable but luckily our selected seedling, *P. sieboldii* ‘Snowflower’, was the pot that was ready for the show. I am very happy with this selection which has a snow white flower and nice compact form. An added bonus is that it is also quite long flowering.

This entry was one of the three considered for best plant in show, and while it didn’t win this time, it certainly made an impression. But it seems there is a renaissance of *P. sieboldii*. Many pictures of it were posted on the new “Primula Lovers” Facebook page in early May. Most were from the eastern side of the country, but the West is not without *P. sieboldii*. The Lunns brought a selection of *P. sieboldii* plants to the Portland show and it once again demonstrates the wide variety of forms of the flowers. I also saw a number of plants on the Barnhaven website when I was looking for something else.

We all know that the Japanese treat this particular *Primula* as a show plant and set up theatres (such as the one on page 22) to display them for the spring season. But the plant is also being grown, mostly out in gardens, here in the New World. This plant can be difficult to germinate, but I see from reading posts online that *P. sieboldii* seed is one that needs to be sown the same season it is harvested. Seed even six months old often won’t germinate. And the trick seems to be that *P. sieboldii* seed germinates as its compost warms up. There will likely be some of this year’s collected *P. sieboldii* seed in the up-coming seed exchange, so if you get a package, sow it at once, let it get a bit of cold treatment, but then bring it in to a windowsill or greenhouse where the temperatures are warmer. With luck you will get some germination as we move into the spring season. Failing this, find a plant for next year and save the seed from it so you can sow what you know to be fresh seed. Good luck, and enjoy one of the most elegant and garden worthy *Primula*.

American Primrose Society

Minutes of the Board Meeting held on July 27th, 2014

The meeting was held online. It opened at 6:06pm, ET.

Board members present: Rodney Barker (President of the New England Chapter), Ed Buyarski (Director), Paul Dick (President of the Juneau Chapter), Mark Dyen (Director), Alan Lawrence (APS President), Amy Olmsted (Director and Seed Exchange Coordinator), Michael Plumb (Secretary and Webmaster), Rhondda Porter (APS Vice-President)

Regrets: Cheri Fluck (Director), Julia Haldorson (Director and Membership Secretary), Merrill Jensen (Director), Jon Kawaguchi (Treasurer), Maedythe Martin (Editorial Committee)

A. Approval of the Agenda

MOTION (Rodney / Paul) to approve, with the addition at Rhondda’s request of D5 Advertising under Committee Reports. Carried.

B. The Minutes of April 12th 2014 – accepted (Michael / Rodney)

C. Treasurer’s Report (Emailed before the meeting)

1. Income less expenses April 1st to June 30th 2014: ($421.36)
2. Income less expenses January 1st, 2014 to June 30th 2014: ($251.60)
3. Total liabilities and equity as of June 30th 2014: $26,139.13
4. Additional revenue is expected from the Norwegian botanical garden that ordered extra copies of the Quarterly.
5. Jon pointed out in his report that we cannot depend on donations alone to prevent losses. He strongly recommended that no increase in spending be approved for 2014 and that expenses be reduced.
6. The board agreed with Amy’s suggestion that more meetings with other societies would encourage their members to join the APS (‘crossover’ memberships). Some joint meetings are already scheduled.
American Primrose Society  Autumn 2014

D. Committee Reports

   a) The board thanked Amy for her work in running the recent Seed Exchange.
   b) Amy said she was willing to run the next Seed Exchange.
   c) Amy has been encouraging people on her Primula Facebook site to save seed.
   d) MOTION (Ed / Amy): to accept Seed Exchange Report. Carried

2. Editorial Committee (Maedythe, by email):
   a) The quarterly has had an erratic schedule this year, but we are back on track for the summer and fall issues. Summer will be mailed soon, if it hasn’t already gone out – the printer picked up the file about July 1st and Alan will know when it is ready to mail.
   b) The fall issue should go to the printer about October 1st.
   c) Maedythe recently learned that the US bulk mailing rates in place when she started with the quarterly in 2006 had come under review and a class action lawsuit had been lodged. She filled out the paperwork and in June she received $280 US as a result. She has reported this to Jon the treasurer for him to add to his accounts.
   d) MOTION (Ed / Amy) to accept Editorial Report. Carried

3. Website (Michael, by email and on line):
   a) Average number of unique visitors per week is 212, of whom 87% are first time visitors. This is a great chance to attract new members.
   b) One hundred and sixty members have logged into the members-only areas at one time or another.
   c) The APS now has its own Facebook page, open to anyone. People do not need to be ‘friended’. This Facebook page was set up to augment the website’s Forum, since it is much easier to post photos on Facebook. The Forum can still be used for question and answer, for example.
   d) Quarterly volumes 1 to 25 (1943 to 1967) have now been scanned to PDF ready for posting to the website for members. Members can already view 18 of the most recent issues, from spring 2010 to the present.
   e) Summer 2010 is currently the only issue available to non-members. Michael will add a limited number of others, as agreed by the board, to encourage people to join the society.
   f) MOTION (Ed / Michael) to accept the Website Report. Carried.

4. Membership (Julia, by email):
   a) Michael calculated that membership has dropped by 15% since the same time two years ago (293 to 250).
   b) When setting up the APS Facebook page, Rhondda discovered that many members’ email addresses had changed. This would make it difficult for Julia to send reminders to members to pay dues. ACTION: Rhondda will advise Julia of the problem email addresses.

5. Advertising (Rhondda):
   a) At the horticultural show in Portland (location of our National Show) Rhondda handed out APS information and free quarterly back issues to the nurseries. She has also mailed promotional post cards to 12 nurseries which sell Primula.
   b) Amy suggested contacting the nurseries that advertise in the NARGS journal and on the NARGS website.
   c) ACTION: Michael will contact the NARGS webmaster re advertising.

E. Chapters

1. Alaska and New England Chapters are on summer hiatus. Meetings start again in the fall.
2. ACTION: Amy and Paul will email Alan a list of their chapter members (Alaska and New England) who belong to the APS [A chapter needs at least 10 APS members in order to have a vote at APS board meetings.].
3. MOTION (Ed / Rodney) to accept the reports. Carried.

F. Business Arising and New Business

1. National Show:
   Rodney announced that the New England Chapter may be willing to hold the 2015 National Show. This could be first weekend in May. ACTION: Rodney and Amy will consult members of NE to confirm whether they are able to hold the 2015 National Show. They will report by the next board meeting.

2. Nominations:
   Alan and Michael announced that they will not be standing again for president and secretary respectively in the upcoming spring election. A director’s post will also be open for election. ACTION: Chapter presidents Paul and Rodney, together with Amy, will scout for possible nominees for the board. They will include overseas members in their search as the society is in fact an international organization.

G. Adjournment (Rhondda) at 7:15 pm ET.
   Next meeting: October 26th, 2014

Respectfully submitted,
Michael Plumb, Secretary
### New Members

<table>
<thead>
<tr>
<th>Year of Expiry</th>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Vivienne Armentrout</td>
<td>920 Vesper Road, Ann Arbor, Michigan 48103</td>
</tr>
<tr>
<td>2014</td>
<td>Will Cochrane</td>
<td>32 Ferguson Street, Camperdown, Victoria 3260</td>
</tr>
<tr>
<td>2015</td>
<td>Parikov Dmitry</td>
<td>ul. 3-ya Novo-Ostankinskaya, 4-69, Moscow, Russian Federation 129075 Russia</td>
</tr>
<tr>
<td>2014</td>
<td>Curtis Hoffman</td>
<td>120 Sawyer Hill Road, Berlin, Massachusetts 01503 USA</td>
</tr>
<tr>
<td>2016</td>
<td>Rachel Hunter</td>
<td>101 Green Mountain Place, Middlebury, Vermont USA</td>
</tr>
<tr>
<td>2015</td>
<td>Paige Litfin</td>
<td>4041 Wade Street #2, Los Angeles California 90066 USA</td>
</tr>
<tr>
<td>2015</td>
<td>Egnaro Rewolf</td>
<td>67 White Hollow Road, Lakeville, Connecticut 06039 USA</td>
</tr>
<tr>
<td>2014</td>
<td>Barbara Sullivan</td>
<td>51 Linda Lane, Bethel, Connecticut 06801 USA</td>
</tr>
<tr>
<td>2014</td>
<td>Kathleen Martinbee</td>
<td>P. O. Box 157, Soldotna, Alaska 99669-6516 USA</td>
</tr>
<tr>
<td>2014</td>
<td>Bree Wylie</td>
<td>P. O. Box 240133, Douglas, Alaska 99824 USA</td>
</tr>
</tbody>
</table>

### OFFICERS OF THE CHAPTERS

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  - martin951@shaw.ca

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  - Rodney Barker, Co-President
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