SalviaNews

Victorian Salvia Study Group
A Branch of the Herb Society of Victoria inc.

SUMMER 2009 **NUMBER 35**

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The salvias in my garden are a joy. Some are tougher than others but all respond so cheerfully to any sprinkle of moisture. I saw Nobelius Garden just before this latest bout of very hot weather and I'll write about that and about the fantastic Web Page. There is such heart warming beauty all around me but it hasn't always been so. We are having tough times now but it is the 70th anniversary of Black Friday. That summer was severely hot and followed a long hard drought. Two million hectares were burnt and 71 people died as the fires raged for days. Near here a five year old boy and his eight year old brother and two mates were sent home from the twenty pupil school at lunch time as the fire got closer. They raced the fire for 2.5 kilometres running as fast as they could through cinders and embers reaching home safely to their widowed mother waiting in the cleared house block, no phones in those days. Many people in Selby were left homeless. This man has a story worth recording.

I started Salvia News as February began and thought the above story was apt for us but didn't realize just how apt. In fact it has seemed that each time I opened the computer the siren went. I have left home twice but had a home to return to. The horror and heartbreak of 2009 Black February is awful. However there parts of Australia where floods are causing devastation. I am trying to be as resilient as the plants.

UNFORTUNATELY GEOFF CROWHURST AND TERRY ASHTON HAVE HAD TO CANCEL THEIR EVENTS

CALENDAR OF EVENTS 2009

MARCH 23rd MONDAY **Ringwood Garden Club** at 8pm
Ringwood East Community Hall, Knaith Road
East Ringwood. Mel: 50-B8
Trudi will be guest speaker and there will be salvia plants for sale.

APRIL 5th SUNDAY	**Visit Geoff Crowhurst's Garden CANCELLED**
APRIL 27TH MONDAY	**Rutherglen Garden Club** at 8pm Elderly Citizens Hall, Rutherglen. Trudi will give a talk on salvias and there will be salvia plants for sale.
MAY 5th TUESDAY	**Caulfield Garden Club Inc** at 8pm St John's Uniting Church Hall 567 Glenhuntly Road Elsternwick (Cnr Foster St) Mel: 67-J3 Trudi will be guest speaker and there will be salvia plants for sale.
MAY 17th SUNDAY	**Nobelius Garden Day** at 11am Crichton Rd. Emerald. (below the packing shed) Mel: 127-G4 Learn as you work and take home cuttings. Bring garden implements, lunch to share and chair Come equipped for the weather: sun hats or macs Please phone Lyndi: 9803 4534 if you intend to participate on the day.
JUNE 21st SUNDAY	**Meg's Shed** at 11 am Meg Bentley's, 3 Fords Road, Gruyere Tel: 5964-9372. Mel: 285-E3 Learn about propagating including division. Bring chair and lunch to share. Please phone Meg if you intend to come to this interesting day.

OUR NEW SALVIA WEBSITE

www.salvias.org.au

The Victorian Salvia Study Group now has a website due to the hard work of Lyndi Garnett our coordinator.

The first thing that strikes you about the website is how colourful it is. There is a band of salvia flowers across the top of the page and revolving pictures of salvia flowers down the left hand side. These change with the different pages visited, (names will be applied shortly). Among the different headings available to visit are; The Calendar of Events, The Plant of the Month (this month Megan's Magic), the Links page provides other sites that either collect salvias or are associated with salvias including Puffing Billy who runs above the Nobelius Display Garden. We intend to include many photos so that by clicking on the salvia name the flower/leaf will appear. Type the web address www.salvias.org.au in the toolbar at the top of the page. Don't Google and avoid confusion!! The more times a person clicks on the site the more the "spiders" will work to bring our site to the top so keep clicking and viewing for more updates

Salvia News from Hobart

Another dry winter, colder than average, has progressed to a very dry spring so that at the end of October we have had only 240mm of rain at the Royal Tasmanian Botanical Gardens for the first ten months of 2008. This dry weather has kept the growth of the salvias comparatively compact with spring regrowth slow to emerge.

Pruning of the tender and vigorous salvias in the collection was performed through September apart from those still flowering such as *S. wagneriana*, *S. karwinskii* and *S .involucrata x karwinskii*. The last two flowered well into November, a long term flowering of more than four months whereas the first flowered only until mid-spring, for about three months. A second pruning was necessary to remove the stems that had failed to shoot on *S.* 'Black Night', *S.* 'Phyllis Fancy' and *S. leucantha*. I wonder if there is any benefit in our climate of trying to retain some of the growth from that of the previous year since that of the new season develops, as the weather warms, so rapidly and retained stems can be subject to late frosts.

One of the most floriferous plants in the collection of salvias is the *S. africana-lutea* in the Herb Garden, at 1.5m x 1.5m, another, the 'Tequila' form of *S. gesneraeflora*, in full flush of red flowers, developed from stems that extended, slowly and symmetrically, from the wind-sheared pruning that the plant received in the storm in early April. Both are in full sun. In a bed with a north-easterly aspect and protection from the afternoon sun, *Salvia concolor*, one that is rarely without flowers, is also at the crest of its display with its many small violet corollas covering well a shrub that is almost two metres in height.

Exposed to the wind from the north-west, and in deep shade beneath an *Araucaria heterophylla*, a planting of *Salvia dorisiana* has a 'horizontal' form at less than half a metre in height. The growth of axil shoots from these prostrate stems has resulted in a profusion of short-stemmed inflorescences, with a different display to that of plants of this species growing in a more protected situation, with vertical stems that mainly flower at the tips. This flowering response is also exhibited on a stem of *Salvia purpurea*, with minimal attachment at the base from wind damage. It is flowering along its entire stem length with simultaneous axil flowers, a reason to retain such affected growth and resist the urge to remove. The rest of the plant has finished flowering, and is, predominantly, shooting vegetatively from the axils of vertical stems.

This feature of growth and blooming of shrub salvias was also particularly well illustrated, in autumn, by a plant of *S. involucrata*, with a north-easterly aspect, that had been flattened by the wind yet was covered beautifully with lots of flowers that had developed from the axils. I am not sure that the same effect of a mass of flowers can be achieved by frequent pruning of the tip growth during the growth phase of such vigorously growing shrubs, but I intend to employ that technique during the coming season if only, maybe, to reduce the damage from the wind on the taller specimens. Alternatively, a pruning by half in mid-season, may achieve a more compact plant with more, but delayed, flowering. I have tried this on *Salvia involucrata x karwinskii*, a few years ago, unsuccessfully, as the plant still achieved its profuse potential of three metres of growth.

Any observations as to other members' experience with their salvias, particularly the persistence of their flowering and timing, and their use of the above techniques, would be appreciated.

John Daniels
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SUMMER SALVIA THOUGHTS

It is getting to that time of year – just after Christmas – when one hopes the weather doesn't become too hot, and the dry spells don't last too long. Until now my salvias have generally been doing well, helped by some early summer rain. A *Salvia munzii* on the nature strip had become too woody, and hadn't ever flowered well, so it got the chop. Sadly, a *S. miltiorrrhiza* out the back flowered beautifully, and then fell in a heap – one of those prone to do that? Otherwise, everything is okay.

I was so pleased with the long-flowering *S. muirii* last season that I planted two more in my little island bed, doing what some garden designers say is a must: planting more than one of a plant. With about a dozen African salvias now, it occurred to me that they are not only an incredibly tough group of plants, but they are more or less foolproof too. *S. africana lutea* gets cut right back to make it more of a ground cover plant, and the others also don't seem to mind being pruned whatever way one likes. Being something of a collector, I could try to find some more African species, but I don't really know where I would put them. *S. dolomitica* is a recent addition, though I hope it doesn't get as big as at the Geelong Botanic Gardens, where I admired the delicacy of its flower colouring and the combination of flowers and calyces.

Apart from the Californian *S. leucophylla*, which should be capable of toughing it out on the nature strip, the only other new plants I have are *S. napifolia*, obtained from Country Farm Perennials, and *S. hypargeia* from Lambley. The former shows its similarity to *S. verticillata* in its leaves and habit, and has quite a pleasing branched flower head with soft purple calyces and small pale lavender flowers. *S. hypargeia* comes from roughly the same area, western Asia, and has basal leaves and straight stems with lavender blue flowers in whorls. My plant has probably been stunted on the nature strip, so I'll have to find a better place for it next season, just to see what it can do.

The nature strip planting is beginning to become properly established, and it is nice to have favourable comment from neighbours and passersby. I am waiting to see how *S.* 'Superior Purple' from Lambley performs, as it is just coming into flower. The brilliant blue flowered *S.* 'Cooki*e'*, which I obtained from Sue Templeton a few years back, is now looking very good. I wasn't too sure how to prune it, but the careful cutting back it received in spring seems to have been right. Mentioning these garden hybrids leads me to another thing.

As keen salvia growers, we probably want to have a good representation of species, but also include the hybrids which have already proven to be great garden plants, such as *S.* 'Anthony Parker*'* or any of the microphylla types, which flower for so long. Commercial nurseries are unlikely to become breeders of new hybrids, so it is the finder of a chance seedling or enthusiastic amateur who is more likely to come up with something new. We salvia growers are in the fortunate position of coming upon first generation hybrid seedlings, with their possibility of enhanced vigour and hardiness. So many other garden plants have been subject to breeding and selection for so long, that they may have lost the best qualities of the original species involved.

Having some established salvia plantings, I am now getting a few chance seedlings, some near *S. somalensis* looking every bit like the mother plant, but I have potted up a few others, just to see what eventuates. Of course, no one wants lots of very similar hybrids with different names, to confuse people, but I think that growing on a few interesting seedlings adds spice to a gardener's life.

Geoff Crowhurst, Thornbury Vic

Celebrating Christmas at Mount Waverley

The idea of squeezing the Salvia Study Group Members into our small garden for the Christmas party was a daunting prospect. What if the weather turns too hot- what if it rains? Fortunately we were greeted with a pleasant day and our anxieties melted away.

Thankyou to Jillian for help in supplying extra tables, umbrellas, tablecloths, china, cutlery, in fact everything that we were short of. With the help of Lyndi and Jillian we were able to set out the back garden and the courtyard with room for everyone.

Members were very generous in bringing masses of plants to share and we loved the sight of our deck smothered in healthy green salvias as well as some other treasures.

The VSSG tradition of bringing a wonderful array of food was well maintained with extra efforts in supplying items to suit the Christmas festival.

Lack of rain was another cause for worry and we were trying our best to make sure that the garden would live up to the expectations of Salvia addicts. Luckily the spring and early summer had few really hot days and some of the plants were growing well, a couple of our favourites, *S* . 'Harmony' and *S. sagittata* for example. Over the winter we had made a lot of changes moving many plants to locations which we thought would suit them better, and to accommodate more roses as we were having an overseas rose expert coming to stay on her way to the National Heritage Rose Society Conference.

Some things worked out as well as expected and those that did not were not obvious. We had expected better progress with the new roses than we achieved. Some of the salvias did better than others. *S. lavandulifolia* had been very slow to grow and was moved into a sunnier position and looked better for it at the time, but now is struggling.

The current prolonged dry weather together with days of extreme heat has been taking its toll. Some of the salvias are coping very well whilst a lot are begging us for water and demanding a drink on each watering day. We always thought that the garden needed better drainage and over the years worked the soil accordingly, but now some areas drain much too quickly.

Salvia chamelaeagnea is the star performer almost two meters high and covered in its mauve and blue flowers, although another of them in the nature strip is a single stem perhaps 150 mm tall with only a whisp of bloom. *S. muirii* is still flowering very well. Over recent years *S. disermas* had been struggling but it too seems to like this current season- it is in a sheltered position and is getting bushier, and with dead heading responds continually with flowers. *S.* 'Mystic Spires' is showing great promise flowering very well already.

We keep adding to our collection and have been over keen to get new plants into the garden whereas they would have been better nursed in their pots until autumn rains and cooler weather arrives. So we have had some disappointing losses and will have more before the summer is over. We should learn from all this and concentrate on plants more suitable to the conditions!

We loved having the group come and appreciated the kind comments we have received.

Margaret and Neil Keir

IT WAS TERRIFIC (Trudi)

WERRI BEACH NSW SOUTH COAST

It is just after lunch and I've been out to the clothesline while trying not to look at the garden too closely. It's one of those days when you say to yourself 'I give up!' Many leaves are desiccated by the heat and since we've had very little rain in January, the whole garden looks a bit sad. But there are dark clouds approaching from the north so I'm hoping.

We still have water in the tanks but it doesn't seem to go anywhere when you have days of wind and heat. I know that most plants will recover even with just a shower. I've taken to keeping the larger Salvias cut back so there's less exposure to the wind, which seems to be working. S. 'Phyllis Fancy' and S. 'Anthony Parker', in particular, don't seem to be affected by cutting back and it's better than looking at burnt leaves. This summer I've decided to give up on S. "Van Houttii'. After several attempts, I think it just doesn't like it here. Some of the S.

patens flowered well but those I had in a more open spot are still alive but didn't flower. I will move them in autumn. *S.*'Christine Yeo' has gone feral and will need a good hacking back after flowering. I do like it though. Another one I am disappointed in is S. *corrugata.* I've tried it in several places but it doesn't seem to thrive. It grows to around half a metre, has a few miserable flowers and that's all. Yet others tell me their plants, probably taken from mine, grow really well. Next year I think I won't allow so many *S. guaranitica* to come up as they tend to take over a bit.

This week we are busy planning another year of Garden Club, our 19th in fact. Again we are searching for speakers but it gets more difficult each year. I'm sure there are lots of people in the local community with expertise but it's hard to persuade them to share their knowledge. However, some members just enjoy those meetings where we share information about anything brought in to the Display Table. A lot of our members are not 'big' gardeners but it's surprising the specimens that appear each meeting. To start off this year I thought we might do another session on propagating as members seem to enjoy that. I will take in some salvias and go through the process and it's amazing the conversation that generates. I think they will be wanting some new ones though.

I did end up losing *S. purpurea* from the footpath garden and I didn't take cuttings. So I'll have to ask around. I have had some success with both the variegated sages in the footpath garden. They've had little water but seem to be coping and spreading. I'm really looking forward to autumn as that's the best time for the salvias in my garden if we get rain. I'm really over summer. It's the only time I'm not so keen on gardening. Some days it's all too much! Having said that, give me a couple of days rain and I'll be out there as enthusiastic as ever. ***Maureen Cox.***

THE ROSE SOCIETY'S ANNUAL SHOW
8th-9th November

We again had a stand at the Rose Society's Annual Show. As we were invited only a few weeks before the event we were unable to advertise it in our Salvia News. Despite the short notice it was a huge success.

The roses were absolutely beautiful with all the colours one could imagine and then even more. There were large roses, medium sized ones and delicate buds. The variety seemed to go on endlessly. And yet, even with all those glamorous blooms surrounding us our salvias were very much in demand.

We found that after the talks that were given on roses we were surrounded by people asking for the salvia the speaker spoke about. Of course we had no idea what salvia that was not hearing the talk ourselves. Someone would then rush off and ask the speaker to come and tell us. On one occasion that created more confusion as the speaker had the wrong name of the salvia she was holding and Jillian had to tactfully tell her. Eventually, and I mean eventually, Jillian was able to convince her that the name was incorrect and the salvia she was holding had an entirely different name. This interaction created a crowd who were eager to purchase the salvia the speaker was holding and they didn't appear to mind what the correct name was.

People who purchased last year came back for more and there were also many first time buyers. I noticed a lot of the first time buyers bought a lot of plants it was as though they wanted to fill up their garden beds with salvias of all heights and colours and walked away almost unrecognisable because of the many bags they were carrying full of plants.

Jillian worked the Saturday and Sunday with helpers from the Salvia Study Group on the Saturday and I helped out on the Sunday as everyone else was going to Karen Meeuwissen's garden. We were both sorry that we missed out on the visit to Karen's garden which we heard was 'stunning'.

Karen, Jillian and I are hoping to come and visit your garden another day.
Irene Robinson

Greetings from "ASHBY" on Tamborine Mountain

2008 has been truly a Garden year for us, beginning with hopeful falls of rain at the end of last summer and overcast damp winter days, quite unusual for us. Consequently, (having agreed to open our garden for our 'Springtime on the Mountain' festival in early Oct 08) my time initially was taken up with cutting back enormous quantities of growth spurt, visiting our invaluable green waste tip many times each month. Of course all of our salvias received the same treatment and responded well as a result.

I have to admit to a tiny degree of smugness on the three festival days. The front, north facing, sunny garden is well drained and *Salvia dolomitica* flowered beautifully and was a big hit. *S. africana lutea* outdid itself. Some of the new 'Heatwave' salvias performed very well especially 'Glimmer' (cream). *Salvia africana caerulea*, previously quite sluggish, flowered well.

The star of the front garden was a recently purchased *S.* 'Greek Skies'. Because of its grey leaves and its Mediterranean appearance and name, I planted it in the sunniest, most well drained place and prayed hard. It flowered with a host of lavender blue flower spikes which inspired many oohs and aahs from our garden visitors. The real test for this beautiful plant is beginning now with our summer rain and humidity.

It is Sat. 3rd Jan 09, and I am gazing out at a very watery garden. In the last two weeks, we have had a day or two so cool, that we had to dig out our track suits to wear to a pre-Christmas concert (in a lovely garden) and in the last days before New Year we sweltered in very high humidity after some fairly wild storms. One storm dropped one of our cypress pines closing our road, and continued to keep our Scenic Rim Council boys busy removing debris and restoring power.

As I write, I have an 'arrangement' of summer flowers in a blue jug. I gathered some lavender buddleja from a shrub that I had to cut down yesterday after it fell down in a storm. This prompted me to cut some more blooms: a Royal Red buddleja, some pale pink Rosa Duchesse de Brabant and some deep pink R. 'Princesse de Sagan'. I cut back a cane begonia disappearing into a tree and used the frothy white flowers from there as well as some deep blue and pale blue spikes from *Salvia chamelaeagnea*, adding some cuts of *S. lanceolata* with its dusky pink flowers and pink and green calyxes. The latter I cut back months ago with the idea that I would replace it with a fresh cutting. It responded so well to a hard prune that I didn't have to remove it at all. The blue jug holds a strange collection of flowers but it does look very pretty and also demonstrates that many salvias are 'vase' worthy especially some of our summer ones.

Meanwhile *S. oxyphora* is powering on with 1.5m spikes of velvety pink flowers. This suckers moderately on the mountain. *S.* 'Anthony Parker' has bulked up and is ready to flower. S. 'Phyllis Fancy' grows to 1.5m and its pale blue flowers go on for most of the year.' Another new salvia to me is 'African Skies' and despite being planted in semi-shade, seems to produce many pretty blue flowers on its lax stems. This plant, I believe, is a cross between *S .chamelaeagnea* and *S. scrabra.*

As usual *S.* 'Waverly' has lush foliage and lovely lavender and white flowers spikes. *S .buchananii* spreads slowly and shyly shows cerise pink velvet flowers between clumps of glossy foliage.

I have Rosa mutablis in full flower (orange, cream, deep pink) underplanted with *S. microphylla* 'San Carlos Festival' (deep pink), S. grahamii (red) and cheeky S. coccinea (apricot) popping up here and there. A lovely combination, I must say, but not entirely my planning, just a bit of serendipity.

Neil, my husband and computer man, has, over a number of years documented nearly all of our plants and identified them with laminated labels. They are unobtrusive and last well for years if I can avoid sending them to the green tip. Our garden visitors were very appreciative and we were satisfied to see people making notes of plants and names, particularly the salvias.

Sometimes when visitors ask "where do you source your plants?", there is not a simple answer. It is quite daunting for them to realise that it takes years of holidays, trawling through nurseries, plant stalls, garden days and generous friends' gardens (what a chore!) We then grow and trial them, to lose all the cold climate and some of the Mediterranean plants and finally produce some lovely plants from mostly sub-tropical to temperate parts of the world. A little geography doesn't go amiss here. Nevertheless we all have to try each and every salvia that comes our way, don't we?

I've just had a long telephone conversation with a friend in Ballarat and she told me that the lake was mown!!! and the grass caught fire from a spark from the mower. That is so sad. Our thoughts are with all the people waiting for that precious cloud to break the drought.

Keep gardening,

Elwyn Paton

PS: You will notice how different the articles are from the SEQ salvia group members – our climatic zones vary so much. Here on the Sunshine Coast we have been blessed not to get the wild storms that they have had in Brisbane and southside to Tamborine Mountain.

Barb Wickes

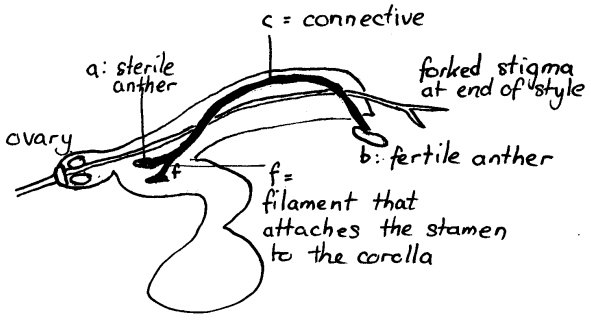
The Perennial Poppies Group Inc

A Bit of Botany Part 2: The Reproductive Parts

The third part of this series will cover some of the terms used to describe leaves – their shape, tips, base, margins, surface and hairiness. All these terms are used when comparing one Salvia with another.

In the Spring 2008 edition of this newsletter, I described the flower parts calyx (sepals) and corolla (petals) and the bracts that are sometimes found immediately under the flowers. These are some of the features that are useful in identifying a particular species of *Salvia.* In this article, I shall describe **some aspects** of the **stamens, the style and pollination.**

Stamens are the male parts of a flower**.** They are particularly significant in Salvias. In the first place, Salvias are almost, but not quite, unique in the Lamiaceae family of plants in having only **2 stamens**, whereas most of the other genera such as *Lavandula, Perovskia, Phlomis, Lepechinia, Scutellaria, Agastache, Leonotis* etc have **4 stamens.** Secondly, the stamens in *Salvia* have evolved into a unique lever mechanism that is crucial to the process of pollination in *Salvia.* The shape of the stamens is also significant in identifying different *Salvia* species, but this becomes complex.



A generalised cross section of *Salvia* is as below

The style is gynobasic . It is often forked at its tip. (see below in the section on the female parts of a flower.

The stamen has one fertile anther, 'b' at its tip. This is connected to an infertile anther, 'a', by the connective. The whole assembly is attached to the corolla tube by a filament, 'f'.

The shape of the stamens in Salvias is also unique. In most flowers, the

stamen has a filament ('f'' in Fig I) with an anther at the tip which is made up of 2 lobes ('a' and 'b') united by tissue called the connective ('c'). In *Salvia*, the stamen has evolved as shown below so that the filament and connective make a lever mechanism to aid pollination.

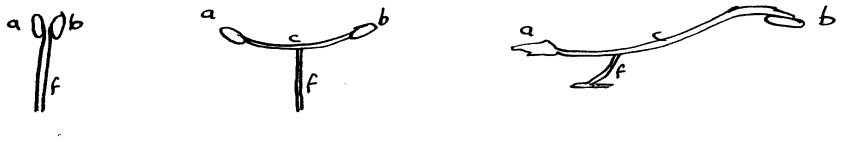


Fig I Fig. II Fig. III

Over time, the connective has extended so that the anther lobes are separated as in Fig II and eventually the lower or anterior anther, 'a', has become sterile (Fig III).

In addition to the two stamens in any Salvia flower, there are sometimes traces of a former pair of stamens. These vestigial structures are called **staminodes.** You can see these inside the corolla tube of *Salvia gesneriiflora* for example. They occur along the corolla tube. Don't mix these up with **papillae** that occur at the base of the tube.
The female parts of a flower consist of the **ovary,** or swollen section at the base of the flower, in which there are carpels and from which a long stalk, or style, protrudes, at the tip of which is the **stigma.** The stigma is made of special tissue to which pollen can stick.

Salvias are said to be **gynobasic** flowers because the style is attached at the base of the ovary, not the top. The ovary has 4 compartments, enabling it to form 4 seeds.

In many Salvias, the tip of the stigma is forked, though not always. In an earlier edition of this newsletter, John Daniels wrote a fascinating article on the variations in the form of the stigma in Salvias – which were forked, which were coloured what and which had hairs. He questioned the function of shape, colour and hairiness.

Pollination
Sexual reproduction in flowers involves the fusion of male and female reproductive cells which are known as gametes. This comes about by pollination – i.e. the transfer of pollen carrying the male gamete to the stigma. If the tissue on the stigma is ready, and if the pollen is compatible, the pollen grain germinates on the stigma, a pollen tube forms and grows down the style, the sperm nuclei move down this and fuse with the female egg cell.

Germination of the pollen on the stigma depends on the shape of the pollen grain and on a chemical reaction between exudates from the wall of the pollen grain and the surface of the stigma. If germination occurs, the pollen is said to be compatible. Conversely, if it can't develop, it is incompatible. Many plants are self-incompatible which means that their own pollen cannot germinate on the stigma of the same individual. The plants must then be cross-pollinated with pollen from another individual of the same species. Usually, stigmas reject pollen from other species but when different species do fertilise, we have hybridisation.

Many of us only have one plant of a particular Salvia species and yet we collect seed. In this case, fertilisation must have occurred between different flowers on the same plant. Generally, the stigma matures at a different rate from that of the pollen in an individual flower, so that pollen from one flower is taken to the stigma of another. A few Salvia even

manage to produce seeds without the flower opening. This seems to happen with the second flowering of *S. lyrata*in our garden. Such a plant is termed "cleistogamous".

The staminal lever mechanism in Salvias

Watch a bee collecting nectar from a Salvia. As it crawls into the corolla tube to find nectar at the base of the tube, its body will push the sterile anther upwards which, in turn, brings the fertile, pollen-laden anther down on its back, depositing pollen on its back (Fig. V). When it visits the next flower, if it is an older flower and the shape of the style has changed, this pollen will brush off its back onto the receptive stigma of the second flower.

Fig. IV

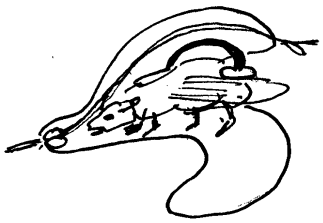


Fig. V

Fig. VI

It isn't always this simple. Approximately one third of all salvias in the world are pollinated by birds in their native habitat. These include New World salvias and some South African species. However, pollen can equally well be deposited on the upper part of the beak and transferred to the stigma of the next flower in the same way. The early classification of sub-species of Salvia included the shape of the stamens and corolla tube because they recognised that plants evolved in parallel with their pollinators. There is of course a lot of speculation about how this all took place and modern approaches to classification involving detailed molecular studies, together with comparisons of the reproductive parts of flowers, should help to clarify things more.

Further Reading

1. Capon, B. 1990, "Botany for Gardeners: An Introduction and Guide". – this one is great for anyone interested in subjects like plant function, adaptation, reproduction.
2. Chong, S. N. (revised by King, E. L.) 1996, Basic Morphology of Flowering Plants", Training Publications of Western Australia.
3. Clarke, I. and Lee, H., 1987, "Name that Flower". Melbourne University Press
4. Classe-Brockhoff R., Wester P., Tweraser E. "The staminal lever arm mechanism in *Salvia* – a review. Plant Biology 2003; 5, 33 - 41

5 Dufresne, Richard: www.eclectasy.com/gallery_of_salvias/flower1.htm - Section on floral structures Mager, S. "Botanical Field Guide" – a handy, fold out card containing 280 symbols and 400 keywords (bought mine at Adelaide Botanic Gardens

6 Harris, J. G. & Harris, M. W., 2001, "Plant Identification Terminology: An Illustrated Guide".

Pat Anderson

Notes from Gruyere Summer. 2008 - 2009. Meg Bentley

I can't believe the difference a good drop of rain can make, at the right time. The salvia gardens have always had to 'make do' with a minimum of water that might drop from the heavens which wasn't

much at all. They have had to 'survive' without becoming dependant on additional watering and I'm sure many folk are now finding out just how well plants can adapt with little moisture. Well, this past Spring brought a few good rains which sent the garden 'singing', weeds too I might add.

The salvias and plants in general here, as you know, have always had to battle on, regardless of any precipitation or moisture of any kind but those rains helped the gardens no end. It was very interesting to see such marked improvement in the quality of the plants and flowers. I now understand why people say to me 'Oh, my plants are much bigger than that'. IT'S THE WATER!!!

These rains helped to get my plants looking good for the garden groups and visitors who came to see salvias and hardy plants. I think everyone enjoyed themselves and there were many plants on discussion and comparisons of others. I would like to thank everyone for coming and a big thankyou too for my many helpers.

I remember discussing salvias once with someone who had described to me the small flowering ones (ie. greggii's and microphyllas and their cultivars) when planted in a bed together saying ' they look rather like confetti, don't you think'? This comment gave me something to think about.

In many cases this can be true... but in most areas of my garden, I tend to work with a colour scheme rather than grouping a particular species together. I like to make small cameos, where plants compliment each other; fIower colour, leaf texture and shape and the varying heights all go to make up these little cameos. Just to give you one exampIe: we have all had problems trying to place *Salvia africana Iutea* in an ideal situation, so I planted it between two roses, 'Edith Holden' with its burnt orange fIowers on one side and 'Graham Thomas' with light yellow flowers on the other side with *Salvia* 'Indigo Spires'. Planted close by was *Salvia canariensis alba , Salvia apiana* and *Salvia semiatrata,* in the foreground was *Salvia forskaolhei,* with irises and daylilies for added leaf contrast. Flower shapes can also lift the 'confetti' look, eg the large white shasta daisies, roses, foxgloves and pelargoniums. Contrasts in foliage can also help an area that might otherwise be too bland and can be achieved by the use of *Lepechinia hastata,* liliums, *Aeonium arboreum* and *Aeonium arboreum* 'Zwartkop', zonal and regal pelargoniums, and *Phlomis russeliana.* In some areas, the large leaved salvias can be used to great effect, *Salvia macrophylla, S. sclarea, S. sclarea* var 'Turkestanica' and *Salvia argentea,* just to name a few.

We are now into summer and if your *SaIvia nemerosa* types and the like have finished flowering, now is a good time to cut them back to the base shoots, feed and water them and there is every chance they will give you a second flowering in the autumn.

Some salvias can be propagated now too, the stems should have hardened up enough and not be so 'sappy'. What I do is place the cuttings into a bucket or container of diluted seaweed solution, then place them into friable soil or potting mix **with a label** then pour the rest of the solution over the cuttings and place in a shaded spot of the garden but don't forget to keep them moist and watch out for slugs and snails.

Salvia News from southeast Queensland –Denise Horchner

It has been very interesting to observe the salvia plants in my (metropolitan) garden during the last few tumultuous weeks (weather-wise). This, as a result of very high temperatures and wearying humidity, involved some fearsome storms (one week there were five in succession) with huge dumpings of rain and sometimes, incredible wind. When I ventured out during a recent quiet period I was very relieved to see how resilient some of my salvias had been.

S. **'Indigo Spires'** after drying out for a short while and supported by lots of goldenrods and robust clumps of shasta daisies was still blooming madly, making a very pleasing colour combination; and there was ***S.*** **'Black and Blue'** sending up thick spires of richest royal blue amongst bushy plants of 'Wanderer' butterfly-attracting egg-yellow **asclepias** with **Mexican sunflowers (*Tithonia rotundifolia)*** looming over them. I think you will get the picture here - I obviously love bright colours but have to admit that self-sown hollyhocks with ruby red flowers should have been pulled out as soon as they appeared in the same patch! Nearby a favourite plant - ***Nicotiana langsdorfii*** **(**always intriguing with its myriad little soft green bells with bright blue tipped stamens) was trying in vain to cool things down…….

But this article is supposed to be about salvias and I shall move on to another excellent species - one of the aptly-named **"Heatwave"** series. My favourite one in our garden - **'Blaze' -** is a very good, bushy plant always seeming to be smothered with thick little sprays of a particularly nice claret shade of flowers. (**'Blaze'** to me is a misnomer). This is one that never fails to make visitors stop in their tracks and say "Oh, yes, I do like *that* one followed by the inevitable and hopeful "'Could I possibly have a bit?" Of course they can, a littler culling will only bring more flowers!

Another very good long-flowering plant is ***S. microphylla*** **'San Carlos Festival'** - completely unfazed by unfavourable weather conditions as is its feisty companion - ***S. guaranitica*** (o.k. - so some people call this hardy salvia with its flowers of inimitable blue a' thug' - I always say that if all 'thugs' were as beautiful what a lovely place this world would be!) Another version of this much-maligned species that is viewed more favourably is ***S. guaranitica*** **'Large Form'** and I was very interested the other day when I noticed (for the first time) long, curving, snow-white stamens emerging from the corolla of each flower. This is a very attractive salvia indeed.

Lots of rain has, for the first time after years of drought, has shown us how large some salvias can get and as we only have a small garden I am viewing with alarm ***S. iodantha*** gearing up for winter, together with the involucratas and karwinskiis – ***S. karwinskii x*** **'Winter Red'** - (an absolutely gorgeous salvia), ***S. involucrata x karwinskii*** **'Romantic Rose'*, S. involucrata*** **'Pink Icicles'** and mustn't forget ***S. wagneriana,*** or of course**,** humungous ***S. involucrata sp.*** (A little aside here, I have discovered that 'humungous' isn't in the dictionary - why not? It is a very good, descriptive word, especially for involucrata salvias. It also perfectly describes ***S. madrensis*** which is embarking on its annual rampage, aided and abetted by the frequent rain (I don't mean to boast, really I don't.) I keep desperately pruning this lot but this only ***encourages*** them!)

S. **' Marine Blue'** has sulked a wee bit after all the rain (the only one I have found) but not so ***S. discolor*** **and** darling little ***S. semiatrata*** **-** both safe in their well-drained pots. Indefatigable ***S.*** **'Wendy's Wish'** is nothing short of amazing, (grown in semi-shade of course up here) and I have noticed how there is often a beautiful piece of rich maroon velvet left inside when the flower dies. Have a look and see! I couldn't go without mentioning ***S.*** **'Josh' - a**n excellent, well-behaved salvia with masses of red flowers that never seems to stop blooming. The adjective 'red" doesn't do justice to this lovely plant, hard to describe, a soft, yet at the same time bright red and always greatly admired by everybody. Finally, ***S.*** **'Phyllis Fancy'** was recently cruelly pruned and threatened with annihilation. It has been behaving ever since (so far that is, I have a feeling that once it gets over the shock it will try and show me once again who is boss!)
Sending best wishes for a Happy New Year to all and hopes for good rain (but not *too* much) in the coming year.

Study Days

Occasionally a few of us have got together with microscopes, hand lenses etc to pull flowers apart to make detailed comparisons of certain Salvias. This is not everyone's idea of fun. However, I am concerned that we don't exclude anyone else who is keen on this sort of activity. Please ring **Pat Anderson on 9844 3442** if you want to find out more.

Salvia 'Finngrove': a further note

In issue no 31 (Summer 2008) of this newsletter, there was a detailed description of this new Salvia. Those of you who have *Salvia* 'Finngrove' in the garden will know what a tough nut it is proving to be in these hot, dry conditions we are experiencing.

At the time of writing, the suggested parents of this hybrid were *Salvia* namaensis (pretty certain) and *Salvia africana caerulea* (probably*).*

I grew plants from cuttings in my garden and managed to collect a few seed during the season (this can happen with hybrids). I sowed these and two germinated. Imagine my surprise when one turned out exactly like *Salvia* 'Finngrove' and the other like *Salvia muirii.* I immediately presumed that this indicated the real parentage until Arja wisely pointed out that this fertilisation had taken place in my garden and that my new plants could be crosses of *Salvia* 'Finngrove' and *Salvia muirii.* Ah well……

Pat Anderson

Some More Name Changes 2008/09

This time last year I reported the following name changes that I had received via email from Robin Middleton in England:

S. praeclara* is now *S. exserta
S. meyeri* is now *S. rhinosa
S. gilliesii* is now *S. cuspidata* subsp. *gilliesii
***S.* sp from Chiapas (thought in the UK to be *S. pulchella* for a while) is now S. univerticillata**
S. cruickshanksii* (what we called 'Kathe' previously) is now *S. flocculosa
S. melissodora* is now *S. keerli

To these I should now add the following:

S. africana caerulea* should be called *S. africana
S. africana lutea* should be called *S. aurea
S. fallax* is now *S. roscida
S. oresbia* should be called *S. darcyi
S.* 'Michoacan' *i*s now *S. clinopodioides
S.* 'Red Dragon' is probably *S. cardinalis,* although this in turn may be a form of *S. fulgens

AND
***S. melissodora* IS NOT *S. keerlii after all* – see below.**

AND
***S. meyeri* is NOT *S. rhinosa* after all (see Robin's article received in Feb 09)**

Following the publication of Christian Froissart's new book, "La Connaissance des Sauges", the rationale for these changes, (together with some other name standards that are accepted overseas), has been established and is described below. Christian is one of the foremost world specialists on the genus *Salvia,* and he has determined his name corrections after scrutinising herbarium specimens and original descriptions.

S. africana caerulea
Christian Froissart explains that Linnaeus used this specific epithet in his first edition of Species Plantarum, but in his second edition, he had changed this to ***S. africana,*** a name which conforms to the rules for naming that he had prescribed himsellf. For this reason, the current, contemporary usage should be the latter – ie ***S. africana.***

S. africana lutea

This plant was initially named in 1753, but was finally given the name ***S. aurea,*** in 1762, following the process mentioned above. The name 'aurea' refers to the colour of the flowers when they first emerge.

S. fallax According to Christian, the correct name for this species, named by Fernald in the early 1900s, is ***S. roscida.*** And '*fallax*' is a mistake. ***S. 'roscida'*** is also the name which appears on Robin Middleton's website.

S. gilliesii

There is no mention of this name change in Christian's book. So, for now at least, we can retain this name, or go with ***S. cuspidate* ssp *gilliesii.***

S. melissodora

In spite of Christian's confirmation in his book that *S. melissodora* and *S. keerlii* are synonymous, it transpires (see Salvia Association of Australia newsletter for Jan 2009) that at the Cabrillo Summit in August (a few months after Christian's book was released) they were determined to be separate species after all. So ***S. melissodora*** stays that way.

Furthermore, the plant ***S.* 'Lassie'**, which has been awaiting a species name**, is in fact *S. keerlii.*** *S. lasiantha* is not yet available in Australia as far as we know.

S. oresbia

This one is truly political! Apparently the botanist James Compton was shown this plant on a collection expedition in 1988. He subsequently described it, naming it ***S. darcyi*** in honour of fellow British botanist William d'Arcy. He evidently ignored the fact that this plant had been known by the name *'oresbia'* for some time, according to some, and also by the name *'Schafnerii'* according to others. It appears that '***darcyi'*** is the accepted name in the UK (Robin's website, Christine Yeo's book), in France (Christian Froissart's new book) and in the USA (Betsy Clebsch). Sue Templeton has always used this name in Australia too.

S. praeclara

Christian notes that recent research in Bolivia by the German botanist, Petra Wester, has established that ***S. exserta*** is the correct name for this species. The name well describes the extremely long and exserted stamens.

***S.* 'Chiapas species'**

At last it appears there is a proper name for this one. It is ***S. univerticillata,*** a name that describes the single verticil (whorl) of flowers. The plant originated in the Chiapas region of Mexico – hence the name that it was temporarily given in Australia. Overseas, it had been sold incorrectly under the name *'pulchella'* but Christian's investigations into herbarium specimens proved this to be wrong. Finally it transpired that this plant had been named ***S. univerticillata*** by Ramamoorthy in 2007, but that his description had not been published.

S.* 'Kathe'/*S. cruikshanksii

Christian's description of *S. cruikshanksii* (p. 106) is of a plant that forms a loose cushion of about 25cm high and 30cm wide. Our *S.* 'Kathe' clearly grows much taller than this and is closer in description to ***S. flocculosa*** on p 132 of his book.

***S.* 'Michoacan' (Blue)**

This plant from the Michoacan region of Mexico, known in the UK as *S.* 'Michoacan Blue' has been determined to be the species ***S. clinopodioides.*** (indicating similarity with another

Genus, *Clinopodium* in the Lamiaceae family) This is an interesting plant with lovely blue flowers compressed tightly into persistent bracts. It dies down to tuberous roots in the winter and then emerges quite late, producing numerous shoots in early summer.

***S*. 'Red Dragon'**

This is more complicated and by no means certain. The name '**Red Dragon'** is a nursery name from New Zealand. Cait Hoogenbosch sent photos to Richard Dufresne, a Salvia specialist in the USA, who in turn provided the original description by Frenald. Richard believes this plant is a stable form of ***Salvia cardinalis.*** However, on Richard's own website, he has a photo of a form of ***Salvia fulgens*** which, he says, is newer than the ***Salvia cardinalis*** form. He goes on to say that most of the herbarium specimens of these two species (*S. fulgens* and *S. cardinalis*) look alike and that his *Salvia fulgens* plant is not dissimilar to *Salvia gesneriiflora*. *Salvia fulgens* and *Salvia gesneriiflora* flower here at different times of the year, the former in summer and the latter mainly in winter. Both have variable calyx colour. Christian, however, demonstrates the difference between the 2 species. The corolla tube of *S. fulgens* has 2 papillae at the base (as per Epling's description of Section Fulgentes) as well as 2 tiny staminodes. *S. gesneriiflora* has no papillae (although it does have staminodes) and the inside of the corolla tube has clear, parallel striations. Also, the calyx of *S. gesneriiflora* is longer (20mm cf 15mm with S, fulgens). However, the main difference is the bracts. In *S. gesneriiflora*, these are half the size of the calyx and fall off quickly and in *S. fulgens*, these are twice the size of the calyx.

Reference:
Froissart, C. "La Connaissance des Sauges", 2008, Edisud, Aix-en-Provence

Pat Anderson 5: 1:09

NOBELIUS DISPLAY GARDEN 18.1.09

My first real visit was on a sunny warm afternoon after a series of sunny warm dry days and just before a run of very hot weather. I knew the salvias hadn't been watered since planting and there had been little rain. The plot is orientated North South down a slope and is overlooked by the Puffing Billy Shed. People passing by were very warm in praise of the garden and I was just amazed at its beauty. It reminds me of an embroidered silk carpet. It is rather formal and skillfully planted. I saw it as a whole work of art and then began to see the individual treasures that made it so and began to realise what talented people created it. We are so lucky to be a group that is not only hard working but so creative. This garden is a reference 'book' to demonstrate salvias; not only their worth as beauty in the garden but their growth habits and the hardiness of individual forms and colorwise 'what goes with what'.

The background of the Eastern border is tall old flowering cherry trees and the Western border has a background of oak trees. Tall strong big leafed salvias are planted at the back of the borders. Old plants shifted from the original garden were thriving. Seeing a large garden planted with salvia plants from all over the world is such a unique opportunity for study.
Trudi Fry

Planting at Nobelius

There have been progress reports on the various plantings at the new Nobelius garden starting in Nov 2007, then in April 2008 and a further planting in winter of 2008, in the rain!! Other than on these planting days, there has been no watering. So what is the key to the success?

At each planting, Jillian has come along with huge tubs of pre-soaked water crystals (as well as all the other paraphernalia. I don't know if people realise just how much these activities and the propagation of plants for sale depend on Jillian). A scoop of these has been placed in each well-watered hole prior to planting, and each plant has been well watered before and after planting. And that's it.

There is plenty of debate about the effectiveness of water crystals but this speaks for itself – together with the deep mountain soil and the local climate at Nobelius. It is certainly a contrast to the thin soil and hot, dry conditions here in Warrandyte.

Pat Anderson

HINTS

WATER –STORING CRYSTALS: These have been used for some time by members of the Salvia Study Group. Jillian was the first person who told me about them and I am glad she did. Particularly after that HOT spell we had in Victoria.
Put in one teaspoon of crystals to 250ml of water. This can be doubled if there is a lot of planting to do. You will be surprised how much one teaspoon swells to.
Dig the hole for your plant and it is here where we have two schools of thought.

1: Put gel into the hole, place the plant on top then cover with soil. You will need approx a teaspoon for seedlings and about a tablespoon or two for shrubs.

2: Place the plant in the hole and put the gel around the roots not under them. The same amount as above.

In both cases the gel will last for about three years and by that time the root system for your plant should be well developed and need no assistance from the gel.

Sources: Jillian Barkell and Burke's Backyard Magazine.

POSSUM DETERRENT: Did you know that salvias are a possum deterrent

Adventitious Roots

Also known as prop roots = adventitious roots arising from lower nodes and providing support to a stem. Root development is promoted by auxin which is naturally present in the cuttings, [**auxin:** a cIass of substances in minute amounts which regulate the growth of plants especially the root formation].

Leaf cuttings taken from plants like African Violets and Begonias are known to develop roots on the stem....but it was very interesting to take a leaf (stem and leaf) of a salvia and insert it into potting mix which then eventually developed roots - forming a new plant of a salvia. The ones I've tried so far were *SaIvia chinensis* and *S. oxyphora.* One can imagine roots forming along a hairy stem or hairs at the base of a stem but these two are rather glabrous and showed no visible hairs. These roots, formed on a stem, are called 'adventitious roots'. [Iatin : **adventitious,** coming from outside] broadly meaning any root that emerges from an unusual position - such as growing on a leaf or stem.

Another example of adventitious roots forming on stems was with *Salvia macrophylla*, which in one area of the garden grows so well, with good soil, root base protection and doesn't dry out. At the base of these stems I noticed many long roots shooting downwards towards the soil and they did indeed help support the plant. Have you noticed on other saIvias, eg. *S.gesneriifIora, S. cacaliaefoIia* and *S. eIegans* 'Pineapple', these hairs are prevalent and have you aIso noticed that it shows up more on salvias that have access to moisture and good soils rather than on hard 'do it tough' soils?

It shows how these salvias can take root if a stem falls to the ground, it also shows how they lend themselves to the layering method and eventually ground covering. Many salvias grow and spread through runners or stolons which lay across the ground and take root as they go, some exampIes are *S. aurita* var galpinii, *S. cinnabarina, S. elegans* 'Honeymelon' and 'Pineapple' and *S. scuttelarioides.* Others can spread by underground rhizomes from which nodes on stolens and rhizomes develop roots and send 'upright' shoots. Roots arising from the sides of stems as these do, are called adventitious roots.

I have noticed that some salvias with a thickening on the stem, just near a node, like an 'elbow', show an indication that they too can take root if propagated from this point. This can be observed on some of the salvias mentioned above, especially *S. cinnabarina* and it can create quite a problem if allowed to spread especially in a moist position but not so in a dry area or on hard ground.

Meg Bentley