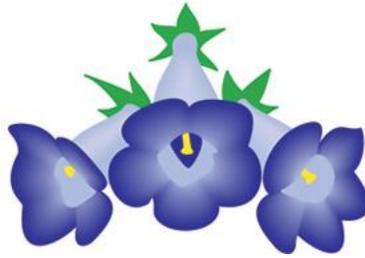


# Petal Tones

Volume 44 Number 9



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## Species Streptocarpus Program

by Dee and Bob Stewart

October 26, 2013 NCAC Meeting

There are over 150 species of *Streptocarpus* known so far. They range from plants small enough to bloom in a thimble to plants with a single leaf over two feet long. The genus *Streptocarpus* has provided many beautiful, floriferous plants for our enjoyment.

These plants have even become popular with the casual house plant grower under the moniker "Cape Primroses". Focusing on species of *Streptocarpus* subgenus *Streptocarpus*, this program will discuss their growth habit, culture and provide a glimpse at a number of the very desirable species.

*Streptocarpus* have a very unusual growth habit. Understanding how they grow will contribute to understanding how to grow them. This program will review what's unique about the way *Streptocarpus* species grow throughout their life-cycle. Given that background, we'll discuss how to grow these plants successfully, including how to grow them without pots - nature's way! Along the way, you'll see many of the species that make this genus so popular!

NCAC Meeting at The Behnke Nurseries, 11300 Baltimore Ave, Beltsville, MD 20705  
(on US-1, a couple of miles from I-495)

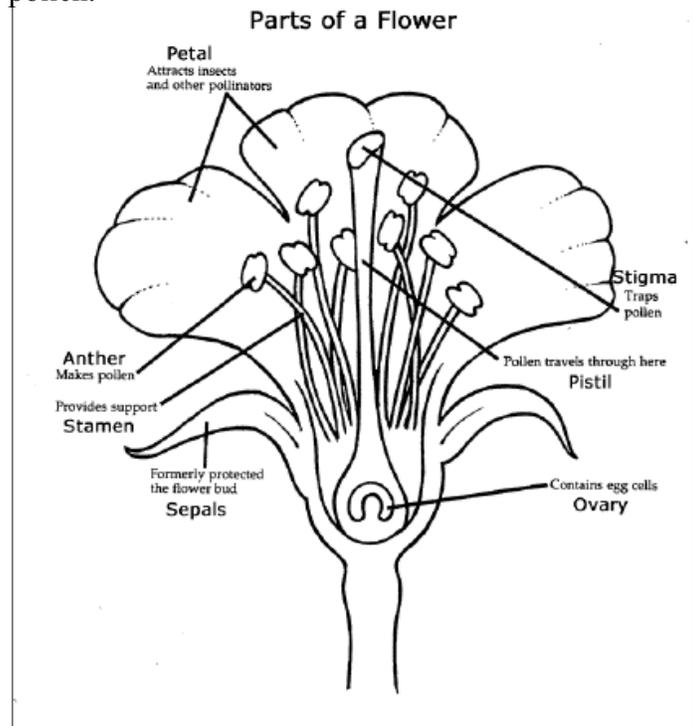
**Time:** Saturday October 26, 2013, 10 a.m. (doors open at 9:30)

Future meeting sites will be announced pending negotiations with the Arboretum.

# Pollinating your Gesneriads

By Karyn Cichocki from Gesneriad Tips 'n Trivia, 37(2013) No.4, Karyn Cichocki, Editor

With a little observation, practice, patience and luck you can successfully pollinate your Gesneriads. Once your plants start blooming, watch the flowers to observe the stages that the flowers go through. When the flower first opens, the pollen is ripe and it is at the “Male” stage of reproduction.. This is the time when the pollinator will visit the flower and pick up the pollen, which will be taken to other flowers. After two or three days, the flower will enter the “Female” stage when the stigma is ready to accept pollen.



By observing the flowers on your plants you can see them change from one stage to another. The photo above of an *Achimenes* flower, taken by Dale Martens, shows the stamens, which support the anthers, have retreated back into the flower tube. The pistil, which supports the stigma is growing toward the face of the flower. So this flower is approaching the “Female” stage.

I think that *Kohleria* flowers are the easiest to tell when the stigma is ready to receive pollen. On many the stigma will actually come out past the face of the flower, the tip is split in two ready to accept pollen. *Sinningia* flowers are also fairly easy to tell when the stigma is ready for pollen.



The picture shows the flower in the “Male” stage and the stigma is not visible. The picture on the right shows that it is past the “Male” stage and is almost at the “Female” stage with the stigma visible. At this time you should start placing pollen on the stigma. This can be done by either placing pollen on a brush, the tip of your finger or holding the anther with a pair of tweezers and cut it from the flower and dabbing the stigma with the pollen. This should be done each day for at least 3 days. Some flowers, such as *Nematanthus* need to be cut open in order to get to the stigma. If you are hybridizing, you will want to cut the anthers off the flower to avoid self pollination. Some flowers, such as *Sinningia pusilla*, will pollinate themselves prior to the flower opening, so if you want to hybridize with those types of flowers, you will need to cut the flower open, before it opens and remove the anthers. This requires proper timing and skill so if you want to hybridize with those types of flowers, you will need to cut the flower open, before it opens and remove the anthers. This requires proper timing



and skill so that the stigma is not cut or damaged. Keep an eye on the stigma to watch it change its shape, some split open (*Kohleri*, *Primulina*), others develop a slit indentation (*Sinningia*, *Nematanthus*) when mature. Once pollination is successful you will see the stigma start

to shrivel and die back and the ovary at the base of the flower will start to swell. In some plants such as *Nematanthus*, higher humidity is required for successful pollination an/or development of fruit. Once pollination is successful you will see the stigma start to shrivel and die back and the ovary at the base of the flower will start to swell. In some plants such as *Nematanthus*, higher humidity is required for successful pollination and/or development of fruit. Here is a photo of *Sinningia sulcato*, taken



by Mauro Peixoto, showing the different stages. 1. the flower has just opened, 2. the flower is in the “Male” stage with the prominent anthers and 3. the flower is in the “Female” stage with the stigma extending out past the anthers. The picture to the right of *Sinningia piresiana*, shows that after successful pollination the flower stems will raise upward,

possibly to keep them out of the way, allowing pollinators to get to the remaining flowers. The picture on the below shows the developing seed pods on *Primulina linearifolia* and below are the developing berries on *Columnea orientandina*.



Left are the developing twisted seed pods of *Streptocarpus*.

## How I Grow My Show-winning *Petrocosmeas*

From Petal Tones April 2010

By Andrew Norris



**Best in Show *Petrocosmea* Collection**

The March 2010 show was a whirlwind of excitement and reward for me. It was my first show, my first exhibition, my first blue, and my first Best in Show! I met so many amazing people and the air was heavy with congratulations, jubilation, and information.....it was the greatest experience I've had in my short time growing and I was surprised to learn that I did indeed have show worthy and in fact, show-winning plants! I will attempt to introduce myself and outline as best as possible my growing conditions and what I felt brought me such exciting results. I became interested in violets after having to move and leave my space hogging animal hobby behind. I have always kept or grown something and usually many things. I am empty without something that I can put my head and hands into. I was a purist. I did not even want to consider other gesneriads. I was ONLY going to grow violets. I ordered my first 5 or so plants from eBay vendors and became a frequent poster on the African Violet forum on GardenWeb. Using the AVSA site, I found the Baltimore African Violet Society. It was through this group that I saw my first *Streptocarpus*. It was 'Raspberry Network' grown by Marie Burns. I HAD to have one!! I began looking at pictures of other gesneriads, while searching for information about *Streptocarpus* and growing violets. It was while researching Streps, that I saw those perfectly symmetrical rosettes of *Petrocosmeas*...I knew they were to be too rare and unobtainable for my small budget and limited resources. I continued acquiring and assembling my wish list of AV varieties and keeping the desire for

*Petrocosmeas* on the back burner. I attended my first violet show, courtesy of my local violet club and there I saw my first *Chirita* (now *Primulina*)...I was hooked! I went home and began looking at all of the vendors I had found through my short affiliation with the BAVS and from my interest in violets. I looked for the vendors with the most species and I read what little I could find on growing *Petrocosmeas*. I began dreaming of complex 'potions' of gritty and alkaline growing media and lighting stands. And it was in fact not long before I did buy my first Rubbermaid shelf, shop-lights, and bulbs. I bought yarn and pots, labels and lime....I was going into the deep end of the pool now!

I ordered my first order of *Petrocosmeas* from Cedar Creek Violets, then followed that with an order to Lyndon Lyons, where I ordered a few more and my first *Chiritas*. I nabbed another *Chirita* and Pet at my next BAVS show in May, and also bought myself a handful of Streps, including what proved to be an elusive 'Raspberry Network'. In the time period between December 2008 to May 2009, I had amassed a collection of about 30 violets, 5 Streps, and my collection of Pets and *Chiritas*. I had *Petrocosmea rosettifolia*, *nervosa*, *begoniifolia*, *barbata*, *flaccida*, 'Momo', *parryorum*, *kerrii*, *sericcea*, *sericcea HT-2*, *minor*, *minor spp. #5*, and *foresttii*. My plants were all in thumb pots and they were just as captivating in their tiny pots as they were at the grandiose sizes I saw in pictures online.



*Petrocosmea minor*

So began my journey to winning Best In Show. The rest of this article will be divided into headings for ease of reference and to condense what is already a rather lengthy article.

### **Lighting:**

After careful consideration and my own experience with different types and brands of light, I decided on one 3k 48" bulb and one 6,500k bulb, both T8s. The higher Kelvin rating mimics sunlight and is best for foliage growth and the 3000k stimulates flower production. These bulbs were both Sylvania, which was no accident, as I prefer these to other bulb brands for the amount of useable light they emit and the lamp life. The bulbs were intended for flowering violets, but since I grow my Streps with my Chiritas and Pets, they got the same treatment. A dual combo of 6,500k would probably be as good or even better for foliage growth in Pets and Chiritas. I found that my prefab shelves leave some length between the plants and the fixtures to be desired, but the pets do ok at about 12" away from the bulbs, on for 6-12 hrs a day. I would prefer 18" between the plants and the bulbs and this is certainly needed for my Chiritas and the Streps need the height to accommodate their tall flower stalks. The silvery leaved plants with the most hair (sericea, nervosa) get the center of the stand, while rosettifolia and begoniifolia do well towards the back, front, or sides. The minor complex gets the sides of the fixtures as well. This has the advantage of the plant utilizing more fertilizer and absorbing more water, resulting in better foliage growth.



Petrocosmea sp. HT-2 grown and exhibited by Barbara Stewart

I also use coarse vermiculite, coarse perlite, peat moss, and pelleted dolomite lime in my soil mix. The exact proportions are not really exact, but it goes something like this:

A 1-1.5" layer of perlite goes in the bottom of the pot, then for each gallon of mix I use 1/2 gallon of peat moss, 1/8 gallon of perlite, 1/8 gallon of Turface, and 1/4 gallon of vermiculite. To this, I add 3 bathroom cups full of the pelleted lime. Mix well and you have my trade secret mix. I use the same mix for all of my gesneriads and begonias, just with less lime. I tried testing for Ph, but it just didn't seem accurate and lost its value to me. I just buy the same brand of peat and expect it is somewhat standard in its Ph. I suspect you will have the same results by just adding the cups of lime as I mentioned. If you want to fuss with Ph, I would aim for a Ph of 7.4-8, being sure to acclimate plants that may have been growing in more acid media.

### **Temps:**

I keep my pets cool. No higher than 78F in the summer and in the low 50sF in the winter. I use the day length as a guide and try to approximate this with my lighting schedule, though I never use less than 5-6 hours of light. I like using an unheated basement or closed room, where I can turn off the heat register and crack the window. Several of the pets actually formed tightly closed, dormant centers; similar to hibernacula seen in sedums and sundews, if you are a carnivorous plant grower. The plants grow slowly or not at all with this chill and put on a bloom for me in November into December. I find that the parryorum and kerrii prefer a bit warmer and would be best kept at about 60F at the lowest, though there was no real ill affect at the lower temps. I begin to increase the light with the day length and the temperatures warm on their own, with the change in seasons. A chill is needed for many pets to bloom and from what I have read to set fertile seed. I am not one for hybridizing and growing from seed at this point, so my expertise falls short in that realm and I urge you to seek out Tim Tuttle's blog on *Petrocosmeas*, as he goes in depth about his experiences with pollination and seed setting.

<http://petrocosmea.blogspot.com/2011/07/petrocosmea-minor-kinship-group.html>

**Fertilizers:**

I probably should/could have reduced the amount of fertilizer my plants got in the winter, but I didn't. They did just fine at the rate of 1/8 teaspoonful per gallon of water of Peter's 20-20-20 or Optimara. I also like to mix a half and half bloom booster/20-20-20 mixture on occasion for Pets that I expect to flower and any gesneriads I want to encourage blooming. This 50/50 regime works as a continuous method equally well and so does using 1/4 teaspoonful per gallon, but since I like to use the same water for all my plants, I use the lesser amount.

**Humidity:**

I never did pay too much attention to this. I have had it be higher in a basement setting and while growing on eggcrate, suspended over water trays, but had equal success on individual reservoirs in household humidity. Having the register turned off and the window cracked, as well the plants being grouped together all makes for adequate growing conditions and zero mildew. I had an ugly time in a centrally heated house with violets and mildew this winter, however.

**Watering:**

Again, when the plants were kept cooler, I probably could have allowed them to dry a bit, but mine have always and will still be kept on wicks with reservoirs that are always full. I don't have the diligence to check on plants frequently enough to allow them to dry out. If I had time to monitor daily, I would probably let the reservoirs dry in the winter and monitor daily for the plants' needs. I only ever use distilled water with all of my plants and when I don't have enough from my dehumidifier (not run in the plant room), I buy and use spring water. I do this, because I am on a city water supply that adds fluoride to the water. This is known to accumulate to the detriment of plant growth. If I was on a well and had neutral to slightly basic water, I would be fine with that and rainwater would be an option, where acid rain is not a problem. If your water is too acid, try adding the lime to the water you use for watering your plants, but do flush them every 8 weeks or so to prevent too alkaline of conditions. I use wicks run from the bottom of the pot to the opposite side of the top, to form a diagonal. I use one wick for up to an 8" pot and all I use is acrylic yarn in the standard width.

This has suited all of my wicked plants and I have never needed a larger wick or more than one. Sometimes I have to clean the wicks of algae, so that they do not stop transporting water to the plants' roots, but that is once every 6 months or less. I find the pets placed on a pint container as a reservoir need topping off less than once a month 3 times all Winter! I love this approach to growing gesneriads.

**Propagation:**

Leaf pullings of any crisp leaf had worked for me for all Pets. The newest center leaves are unsuitable, but the older, outer few rows are ideal. I root mine in warmer temps of 68F-78F, in covered trays of moistened media. I find that they root well in any reasonably lit location and most produce plantlets in a few weeks, with a few taking a couple of months. Suckers are also a viable option and are treated the same way as leaf pullings. As soon as the plantlets show a rosette pattern, they can be potted up into 2" pots and treated as adult plants.

**Grooming/Display:**

I find the Pets get all of the grooming they need when repotting. I do remove whole rows of leaves, when one in a row is damaged and I remove immature leaves as well. None of my plants sucker except for '*Momo*', *barbata*, *nervosa*, *kerrii*, and *rosettifolia*. *Kerrii* and *rosettifolia* only suckered after flowering, while '*Momo*', *nervosa*, and *barbata* are constant suckerers. I choose to remove all suckers as soon as they are seen from all of the plants. *Kerrii* is almost always in bloom and therefore gets suckers that need to be removed every 8 weeks or so. *Nervosa* goes through suckering periods and then is well behaved, and *rosettifolia* ceased suckering after blooming was finished. I have never had any pest or disease problems with any of my gesneriads, other than the violets. For showing, I like using moss, rocks, and woodland decor, such as bark, dead leaves, lichen, and twigs. I think that grouped together this way, they look naturalized and in their 'element'. I would like to try growing them in rock planter made of pumice or tufa, maybe even simulated rock, concrete planters. If you chose to grow a group in a natural style container, try ageing it outside and allowing it to grow mosses and lichens to really authenticate the look. For me, it was also important to show off the variety of Pets that are out there, so I chose

different foliage types, heights and forms for my collection. Group taller plants towards the back or center and try to arrange a collection that looks good from all sides. I admittedly did not do this so well the first time, but no one seemed to notice my lapse in staging. For display at home on the light stands, I do the same; that is place the taller and larger plants towards the back and smaller to the front. I also like to group similar foliage types together. I bet trying pets in the outdoor shade garden would also be a great way to show them off, though they would not survive the Pennsylvania Winters. They could be grown in planters or amended soil and would look nice amongst woodland or Japanese style plantings. I expect slugs, deer, and other herbivores to find the less hairy ones quite edible, so be aware!

I hope I have covered all of the bases to get you interested in *Petrocosmeas* and have good start to growing them. They have proven easy to acquire, grow, and make great companions to your other gesneriads or houseplants. They are tolerant of different temperatures, lighting, and watering habits, and the different foliage types are sure to have something to offer everyone. I find the leaves of *Petrocosmea parryorum* even have a sweet smell, when gently rubbed between the thumb and index finger!!! Give Pets a try and have fun growing your own show winning plants!

#### National Capital Area Chapter (NCAC)

A Chapter of the Gesneriad Society, Inc.

"The purpose of the chapter shall be to afford a convenient and beneficial association of persons interested in Gesneriads; to stimulate a widespread interest in the identification, correct nomenclature, culture, and propagation of Gesneriads; and to encourage the origination and introduction of new cultivars."

(NCAC bylaws, revised April 1981.)

NCAC meets on the second Saturday of the month in the Administration Building of the U.S. National Arboretum. For details, please refer to the latest issue of *Petal Tones*, the website, or contact one of the people below.

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