Gleanings

a monthly newsletter from The Gesneriad Society, Inc.

(articles and photos selected from chapter newsletters,
our journal ***Gesneriads***, and original sources)

Volume 4, Number 11 November 2013

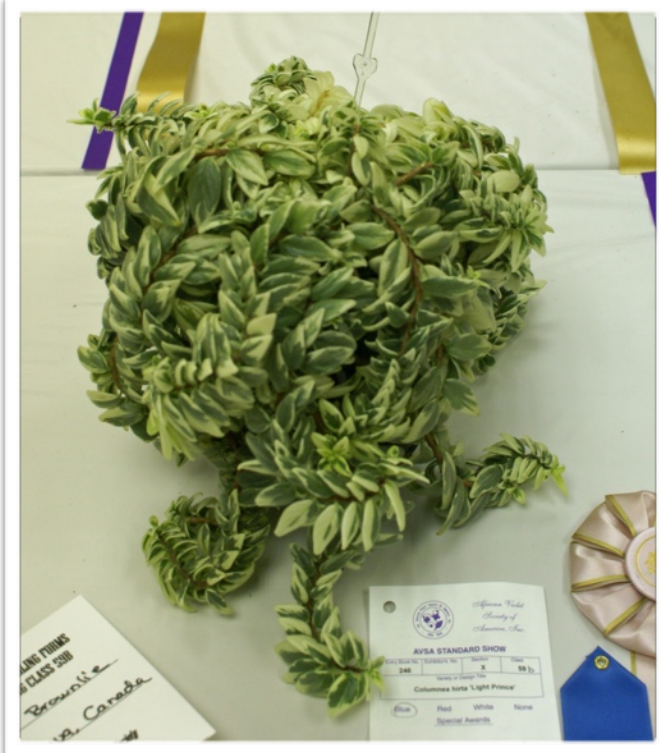
Welcome to the latest issue of **Gleanings**! This issue includes photos from the Ohio State African Violet Society Show, Dale Martens' description of the parts of a Gesneriad flower, and Wallace Wells' tips on growing micro-miniature Sinningias.

Hope you enjoy **Gleanings**!

Mel Grice, Editor

Alcie (AL-see) Maxwell from Shreveport, Louisiana, USA grew this specimen of *Seemannia* 'Odyssey'. The photo on the right shows the plant beginning to send out aerial propagules

Photos from the Ohio State AVS Show



Sinningia 'Leah'
Mel Grice

Columnea hirta 'Light Prince'
Doris Brownlie

Saintpaulia 'Buckeye Too Much'
Debbie McInnis

Aeschynanthus lobbianus variegated
Best Gesneriad
Ralph Robinson

Episcia 'Karlyn'
Second Best Gesneriad
Pat Berilla

Columnea herthae - Ralph Robinson
Best blooming columnea

Photos courtesy of Mel Grice

Gesneria cuneifolia - Jeremy Keene

Episcia 'Pink Smoke' - Cathy Willis

Streptocarpus 'Harlequin Lace'
Steve Turner

Episcia 'Country Copper'
Jeremy Keene

Diastema latiflorum GRF 9669A
Karyn Cichocki

Nautilocalyx adenosiphon - Paul Kroll

Back to Basics: Gesneriad Flower Parts

Dale Martens dalemartens@mchsi.com
Sherrard, Illinois, USA

Gesneriad flowers come in quite a variety of shapes, patterns, colors, and sizes. Usually gesneriads have a zygomorphic (bilaterally symmetrical) corolla. Most have two upper lobes and three lower lobes that are fused to form a single tube called the corolla. Often the upper lobes are a different color and/or have different designs than the lower petals. The Gesneriad Society's form for International Registration of new hybrids has diagrams of the main gesneriad flower, calyx, and leaf shapes. (The form is available asa PDF at: http://www.gesneriadsociety.org/ir_ges/registration_form.pdf) The flower shapes include: campanulate (bell shaped); infundibuliform (funnel shaped); salverform (tube with a flat expanded limb); ventricose (swelling in the middle); rotate (wheel shaped); and hooded (upper two lobes are fused). There are also odd ones such as the bubble-shaped flowers of *Pearcea hypocyrtiflora*. This overview applies to most, not all, gesneriads.

Columnea 'Julia': hooded flower, bilobed stigma, colorful filaments

The **calyx** surrounding the corolla usually consists of five greenish sepals at the base area of a flower. Most common gesneriad types are split, leafy, and fused (forms a tube). With most gesneriads the whole flower "drops" when the flower is spent. The calyx then becomes more visible. Among the gesneriads that produce nectar for pollinators, tiny nectaries are visible with a magnifying glass. (Risking allergic reactions, I've tasted a variety of gesneriad nectars and all are very sweet.)

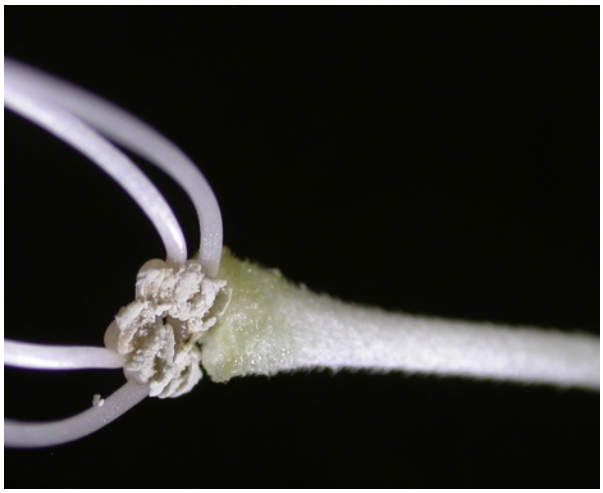
The **peduncles** are commonly called "flower stems," and usually emerge from leaf nodes. See Alan LaVergne's website for excellent definitions and diagrams concerning flowers at: http://www.burwur.net/sinns/3inflor.htm.

Gesneriad flowers have both male and female sexual parts. The male part of the flower consists of one or more **stamens**, which consist of filaments and the pollen-containing anthers. Filaments are thin and attach the paired anthers to the flower. When gesneriad flowers open, the pollen is mature enough for pollination. (I often tell people that the male part of Streptocarpus reminds me of a Thanksgiving turkey's wishbone.) When the filaments are pulled apart, the anthers separate and the air receives a puff of "zillions" of pollen grains. Many gesneriads can self-pollinate, but others, such as Streptocarpus, Petrocosmeas, and Primulinas, protect themselves by having closed anthers. Male anthers are often below the female pistil and prevent pollen falling onto the stigma. The filaments on anthers can show diversity in that some have extra hairs and some are brightly colored or even striped.

The **pistil** is the female part of the flower and consists of an ovary at the base, then a long style that ends with a stigma. Often the style is very short when the flower first opens and the stigma is not receptive but as the style lengthens over days, the stigma changes in appearance and becomes receptive to pollen. This usually occurs after the flower has been open a couple of days. Some gesneriads produce long styles so that the stigmas extend far beyond the corolla tube.

All gesneriad **stigmas** are not alike. When Kohleria flowers are receptive, the stigma is bilobed. For receptive Sinningias, their round stigma has a fuzzy looking surface with a clear opening in the center. It is important to study various gesneriad genera as their flowers open and the pistils mature to know when the flower is at its most receptive for successful pollination.

The **ovary** has numerous ovules. When a grain of pollen touches the stigma, pollen tubes develop within the style that go down to the ovary. Sexual fertilization takes place in the ovary and the ovary becomes the seed capsule/fruit and the ovules become seeds.



Pollination: placing pollen on the stigma

Pollination is the simple action of placing pollen on the stigma. In nature this can be done by the wind shaking the flower or by insects such as thrips, butterflies, moths, and bees, or by animals such as bats. Selfing is pollination that has occurred when a plant's own pollen — either from the same flower or another flower on that same plant — touches the stigma and fertilizes the ovary. Cross-pollination occurs when pollen from a different plant — hybrid or species — is placed on a stigma. Often hybridizers cross-pollinate in order to create new hybrids.

Gesneriads' rounded or elongated fruit can be a dry or fleshy capsule or berry. Among those genera producing dry capsules are *Sinningia, Kohleria,* and *Smithiantha*. *Streptocarpus* has long, dry fruit that is twisted and when seeds are ripe, the fruit untwists. It's common to see dried capsules split on both sides from the apex to the base. Some of the quickest gesneriads to ripen capsules are the micro-miniature Sinningias like *S. pusilla*. I've harvested seeds in as few as 27 days. Most Sinningias, however, take around 30 to 45 days to ripen, and some species take nearly 60 days. Streptocarpus need around 8 to 12 weeks. Most gesneriads with scaly rhizomes need 45 to 60 days to ripen fruit.

Sinningia hybrid calyx and nectaries: top two nectaries are silvery; others are white

The gesneriads with fleshy fruit/berries such as *Diastema, Columnea*, and *Episcia* generally need around 60 days to ripen. I have *Diastema latiflorum* GRF 9669 ripening now and that took 45 days in a terrarium environment. It forms a splash-cup fruit that splits open on the topside so that raindrops can disperse the seeds.

Diastema latiflorum GRF 9669: splash-cup fruit with seeds and 3 black nectaries

There are many gesneriads that are best classed as oddities. One is *Sinningia speciosa,* which is more commonly known as the Florist Gloxinia. These plants have been bred for peloric flowers, means that all the lobes are symmetrical and identical in shape, size, and in design/patterns. Also of interest are hybrids bred to have calyces that mutate into petals. Sometimes the calyx petals surround the main corolla but are split. Others are more tubular. When those calyx-double

Peloric *Sinningia speciosa*: multiple anthers and deformed stigma

flowers die, the flower must be cut for removal because it will not be released by the peduncle. Calyx-double flowers cannot be used as seed parents because although they usually have normal anthers and pollen, the pistils are usually deformed and may have more than one stigma attached to the style. Then there are Streptocarpus and Sinningias bred for extra petals in the centers of flowers where anthers have mutated into extra petals. That usually means they are missing pollen and can only be used as seed parents.

Next time when you are watering your plants, look closely at the flowers and study the pistils at their various stages of maturation. If you have flowers with extra petals, see if the sex organs are "normal." Cut open a larger flower and see if you can find nectaries using a magnifying glass.

Calyx-double above without a calyx; petal-double on the bottom with a calyx

Drymonia macrantha: salverform with colorful, leafy calyces

Seemannia gymnostoma: green stigma, waxy looking anther with white pollen

Aeschynanthus lobbianus: infundibuliform flower, fused calyx, stigma extends beyond lobes, fused upper corolla lobes

Photos courtesy of Dale Martens

This article appeared originally in GESNERIADS Vol. 63, No. 3, Third Quarter 2013, Peter Shalit, editor. Read other interesting articles like this about gesneriads by becoming a member of The Gesneriad Society and receiving our quarterly 56-page journal.

Growing Micro-Miniature Sinningias: Some of my Tips

Wallace Wells wwglox@gmail.com
New York, New York, USA

Growing small plants can be a challenge because of their need for constant humidity and propensity to dry out. I have employed this system with good success.

My micros are grown in three ounce bathroom cups with wicks. The cups are placed in 16 ounce clear plastic cups with lids. The cups hold water in the bottom and create a humid environment. The straw hole provides just the right amount of ventilation.

Watering is done with the lids on using a plastic squeezable wash bottle.

Lifting the 3 ounce cups in and out of the cups for trimming or grooming is done with an 8 inch specimen forceps.

Labels are simply stuck in the straw hole in the lid.

Materials:

16 ounce clear beverage container

Wide mouth wash bottle, 16 ounce capacity

Specimen forceps, stainless steel, straight, 10 inches

3 ounce bathroom cups (“Solo” or store brand)

Cuticle scissors for grooming

Suppliers:

Wash bottle:

Grainger’s http://www.grainger.com/Grainger/Wash-Bottle-6FAV1?Pid=search

Carolina Biological Supply www.carolina.com Item # 624335

Reprinted from ***Gesneriad News***, Volume 45, No. 3, November 2013, Mel Grice, Editor.

From the editor –

The cold weather has arrived in Ohio and I am still trying to prepare my garage plant room for winter. I hope to get my van into the garage before the next issue is published. Wish me luck!

If you have suggestions, comments, or items for possible inclusion in future issues, please feel free to contact me at melsgrice@earthlink.net

Mel

Consultants — Peter Shalit, Jeanne Katzenstein

Internet Communications — Julie Mavity-Hudson, Paul Susi

Newsletter Editor — Mel Grice, 2019 Crosswind Ct., Englewood, OH 45322 USA, melsgrice@earthlink.net

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Paul Susi, Development Chairperson
2 Rushmore Street, South Huntington, NY 11746
For additional information, contact: <development@gesneriadsociety.org>.

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The Gesneriad Society Membership Secretary, Bob Clark,
1122 East Pike Street, PMB 637, Seattle, WA 98122-3916 USA

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WELCOME – membership in our international society includes quarterly issues of *Gesneriads* – *The Journal for Gesneriad Growers,* a copy of *How to Know and Grow Gesneriads*, a packet of gesneriad seeds and a wealth of information about our chapters, flower shows, publications, research, slide programs and seed fund. Membership begins upon receipt of dues.

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