GESNERIADS

The Journal for Gesneriad Growers (formerly The Gloxinian)

Vol. 56, No. 3 Third Quarter 2006

Seemannia (Gloxinia) sylvatica

The Gesneriad Society, Inc.

A non-profit membership corporation chartered by the State of Missouri

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Gesneriads is published quarterly by The Gesneriad Society, Inc., 399 River Road, Hudson, MA 01749-2627.

Postage paid at Providence, RI. Postmaster: Please send Form 3579 to Gesneriads, The Gesneriad Society, Inc., 1122 East Pike Street, PMB 637, Seattle, WA 98122-3916 USA.

The Gesneriad Society, Inc.
(formerly the American Gloxinia and Gesneriad Society, Inc.)

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Second Quarter ..... January 1
Third Quarter ..... April 1
Fourth Quarter ..... July 1

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OBJECTS OF THE SOCIETY — The objects of the The Gesneriad Society are to afford a convenient and beneficial association of persons interested in gesneriads, to stimulate a widespread interest in, gather and publish reliable information about the identification, correct nomenclature, culture and propagation of gesneriads; and to encourage the origination and introduction of new cultivars.

GESNERIAD REGISTRATION — The Gesneriad Society, Inc. is the International Registration Authority for the names and cultivars of gesneriads excepting the genus *Saintpaulia*. Any person desiring to register a cultivar should contact Judy Becker, 432 Undermountain Road, Salsbury, CT 06068 <jbecker@mohawk.net>.

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COVER
Seemannia sylvatica
(formerly *Gloxinia sylvatica)*
photo from the collection of the Gesneriad Research Foundation

President's Message

Carol Ann Bonner <cabonner@gmail.com>
Nashville, TN, USA

I've been thinking a lot about creativity recently. I've read that humans' greater capacity for creativity is one thing that distinguishes us from other animals (although the creativity my dogs employ in finding and chewing holes in my socks should not be discounted). As Pierre Cardin said, "The jean! The jean is the destructor! It is a dictator! It is destroying creativity. The jean must be stopped!" No, wait. That's the wrong quote. Here it is. In the *I Ching* it is written, "Creativity comes from awakening and directing men's higher natures, which originate in the primal depths of the universe and are appointed by Heaven". Metaphysics aside, there's certainly something deeply satisfying about creative endeavors; perhaps it is true that through acts of creation we are touching our essential natures.

Growing gesneriads is one way to exercise creativity. Aesthetic judgment enters into every decision from how many rhizomes to put into a pot to what line material to use in an arrangement. Years back, all tubers were potted even with the soil; now many are potted with over half the tuber above the soil line which is how many tubers grow in nature (mostly because there's not much soil where they're growing). But someone thought to apply that to cultivation; someone thought, "Everyone shows Sinningias with their tubers buried, but I'm going to try something different". Creativity is stimulated when one looks at a found object not as something to discard but as possible staging for the Collections of Gesneriads section of a show, or when the contorted stem of a plant that got crowded to the back of the shelf inspires the owner to selectively prune and grow it on bonsai style.

Plant hybridizers are artists who paint with pollen on stigmata. Just like in the art market, in plant breeding there are Van Goghs and Georgia O'Keefes and those better suited to painting "See Rock City" on the roofs of barns. The creativity comes in imagining a new combination of desirable characteristics, in choosing which traits to perpetuate… and in deciding which plants belong in the compost pile beside that See Rock City barn.

Creativity isn't only about aesthetics. How about the significant mental energy that's been expended over the years on watering methods? Capillary action may be a natural process but someone had to *invent* capillary matting which may have started with the creative adaptation of an old blanket to a new use. Texas style potting wasn't discovered by an early prospector; it was developed by Jodi Davis of Austin. A member of my local chapter, who was a model of creativity well into his eighties, was always experimenting with potting mixes and propagation methods for his favorite plants. In 1984 while in his seventies he assumed editorship of our newsletter, eventually decided he needed a word processing typewriter for the work, became impatient with that so he bought and learned how to use a computer, and soon he was talking about his newest software and trading stocks online. Sure, without gesneriads, he might have had another outlet for his energies, but it's also possible that the passion he had for those particular plants stimulated his interest in associated skills.

If you still doubt that growing gesneriads can rouse your primal, creative self, next time you're at the potting bench, whether in the greenhouse or a corner of your kitchen, plunge your hands into the moist potting mix. Look at the perlite and vermiculite, volcanic minerals from the fiery mantle of the earth. Feel the soft peat, incompletely decayed mosses from bogs across the world that preserve bits of climatic, biological and human history. Even if you're on the 26th floor of your apartment building, at that moment you have your hands in the earth, the locus of some pretty significant creative energy, I think most human beings would agree. Now use that energy. Plant a dish garden or a terrarium or start a topiary. Add a misting or automatic watering system to your light stand — those usually don't come ready-made, so you'll have to invent or adapt something.

Now that you've got your creative juices flowing (juices which I suspect are actually a form of sap), you can tackle an art or craft pertaining to gesneriads. With computer technology, it's easy enough to scan a picture and convert it into a grid to use as a pattern for needlework. Did you know there's a system for using an inkjet printer to print on fabric? You could scan an antique botanical print and create your own gesneriad pillows or quilt. No computer or printer? There's a method for doing the same thing with Xerox prints; your local library will probably have a book on the subject and a copier you can use.

Now that you're well on your way to becoming a craft artist, you can tackle interior design. Even if you're not rich, you can give a room the feel of wealth via the aforementioned copier; a good quality color copy of a botanical print looks great on the wall when framed in a thrift-store frame with a fresh coat of gold paint and some rubbed-on and wiped-off burnt umber. You can even find the frame first and use the copier to enlarge or reduce the print to fit. And of course, there's nothing to say you couldn't *create* the drawing yourself, if you wanted to.

See, you are a creative person. The fact that you grow gesneriads shows that you are. Let that creative energy flow off your windowsill or out of your plant room to other parts of your life. And remember, "The jean is the destructor… The jean must be stopped!"

Carol Ann

Color Photo Sponsorships

- Photos on page 29 sponsored by Arleen Dewell
- Photos on page 30 sponsored by Vladimir Kalgin & Anne Miller
- Photos on pages 36-37 sponsored by Jeanne Katzenstein in lieu of expenses

Seed Fund

Carolyn Ripps <rippscs@aol.com>
Gussie Farrice <F.Farrice@verizon.net>

The taxonomists are at it again! At the time of writing this in March, we have just returned from a Board retreat in Atlanta. One of the topics covered at the meeting was the impact of recent publications and revisions of plant classification on the names which we assign to our plants and seeds. The species names in this Seed Fund listing will reflect some of the latest changes according to the online World Checklist of Gesneriaceae (Smithsonian Institution), so get out your plant labels and start making changes. We will list both the old and new names so that you don't order something you already have. More changes are coming, so you might want to stock up on additional plant labels.

Publication of a species name and description in a botanical publication establishes the plant name as "official". From that time on, the plant should be called by the validly published name. Later revisions of the plant classification system may result in further changes, but for now, these are the correct names. Five new species of *Nematanthus* have been published, three of which are available through the Seed Fund: *Nematanthus* sp. "Santa Teresa" becomes *Nematanthus albus*, *Nematanthus* sp. aff. albus MP 50 becomes *Nematanthus wiehleri*, and *Nematanthus* sp. 'Punctatus' becomes *Nematanthus punctatus*. The plants formerly called *Dalbergaria, Pentadenia*, or *Trichantha* are now included in *Columnea* and will be listed as such. *Codonanthe paula* and *Codonanthe digna* are now thought to be forms of *Codonanthe devosiana*. Several *Alloplectus* and *Gloxinia* species have been assigned entirely new names. See the articles in this issue for the full story.

Ever wonder about the numbers listed after some species names? These numbers uniquely identify a particular plant according to the collector or institution which provided it. GRF numbers refer to a Gesneriad Research Foundation collection, W or G numbers to a plant originally collected by Hans Wiehler, USBRG numbers to a Smithsonian accession, MP to a collection by Mauro Peixoto, AC to a plant collected by Alain Chautems, JLC to a plant collected by John L. Clark, and WEK to a plant collected by Hans Wiehler, Maryjane Evans and Jeanne Katzenstein. The names may change over the years, but if you keep the identifying number on your label, it will always be possible to determine the time and place where the plant was collected and by whom. It is also a good way to check whether or not a "new" plant is one you already have.

Please send your seed orders to the correct person to expedite processing and remember to include your membership number on all orders. It would also be helpful if you give us your email address in case we have a question about your order.

We would like to thank the following for their recent contribution of seeds: Marilyn Allen, Mona Aman, Atlanta Botanic Garden, Karyn Cichocki, Ruth Coulson, Renaud Demers, Arleen Dewell, Ray Drew, Ginny Heater, Scott Hoover, Paul Kroll, Alan LaVergne, Leong Tuck Lock, Dale Martens, Ron Myhr, Ben Paternoster, Mauro Peixoto, Bill Price, Rod Smith, Jaco Truter, and Harry Wiriadinata. Check for the new listings.

Send orders for species seed from the following list to:
Carolyn Ripps
21 Sprain Road
Hartsdale, NY 10530

(A)	Alpine or cool greenhouse	(LM)	Low to medium height
(B)	Suitable for hanging basket	(M)	Medium height; 1 to 2 feet
(D)	Has dormant period, forming tubers or rhizomes	(MT)	Medium to tall
(F)	Blooms readily in fluorescent light	(P)	Petite or miniature; under 6"
(G)	Recommended for greenhouses; requires space	(R)	Rosette in form
(H)	Requires humidity and warmth	(S)	Requires sun to bloom
(L)	Low growing; not more than 12"	(T)	Tall plants; generally over 3 feet
		(U)	Unifoliate or single leaf
		(V)	Leaves may be variegated

Seed Fund – Species

Achimenes (D)
cettoana (B)
erecta (B)
erecta 'Tiny Red' (F,L)
• *grandiflora* 'Robert Dressler' (B)
Aeschynanthus (B)
• *boschianus*
buxifolius 913296
evrardii
fulgens USBRG82-271
humilis USBRG94-214
hosseusii
longicalyx
longiflorus
sp. MSBG87-162
• sp. (like slender *longicalyx*)
• sp. (yellow) (Philippines)
Alloplectus
• *hispidus* JLC5625
Alsobia (B)
dianthiflora
Anodiscus (see *Gloxinia*)
Besleria
laxiflora GRF9675 (M)
melancholica (MT)
cf. *divaricata* JLC5629
sp. GRF9783 (orange w/yellow base)
sp. GRF97108 (orange)
sp. GRF97141 (orange)
sp. GRF9853 (yellow)
sp. GRF98139 (orange)
• sp. JLC5705
• sp. JLC6113
Boea
• *hygroscopica*
Briggsia (A,R)
muscicola
Chirita
caliginosa (LM)
flavimaculata USBRG94-085 (R)
involucrata (F,L)
lavandulacea (LM)
micromusa (F,L)
• *pumila* (F,L)
• *pumila* USBRG2000-18 (F,LM)
• *spadiciformis*
tamiana USBRG98-080 (F,R,P)
• *viola*
• species (Thailand)
• species (blue) from Phuket
Chrysothemis (F,LM)
friedrichsthaliana
• *pulchella* (Ecuador)
villosa
Codonanthe (B)
carnosa
corniculata
crassifolia
crassifolia 'Cranberry'
devosiana (*digna*)
devosiana (*digna* 'Moonlight')
devosiana (*paula*)
erubescens
gracilis
• *venosa*
Columnea (B)
ambigua (*Trichantha*) 'El Yunque' WEK96163
angustata (*Pentadenia*)
arguta
byrsina (*Pentadenia*) (L)
citriflora (*Trichantha citrina*)
crassicaulis (*Pentadenia*)
crassifolia
erythrophaea

fawcettii
- *filamentosa* (*Trichantha filifera*) JLC6500

flexiflora (*Trichantha dodsonii*) (LM)
glicensteinii
hirta
hirta GRF9493
- *inaequilatera* JLC6072
- *linearis*

maculata
medicinalis (*Dalbergaria*) GRF9507
nicaraguensis CR92F16
nicaraguensis GRF94105
- *oerstediana*

orientandina (*Pentadenia*) (LM)
ornata (*Dalbergaria*) GRF2665
oxyphylla
polyantha (*Dalbergaria*)
purpureovittata (*Trichantha*) (L)
- *purpusii*

rileyi (*Pentadenia*) GRF86243 (LM)
sanguinea (*Dalbergaria*)
sanguinea (*Dalbergaria*) 'Orange King' GRF9492
schiedeana
spathulata (*Pentadenia*) GRF9503 (LM)
spathulata (*Pentadenia microsepala*) W1837
spathulata (*Pentadenia zapotalana*)
strigosa (*Pentadenia*) GRF95154
- cf. *isernii* JLC6253

Corytoplectus
capitatus (LM)
capitatus G291
cutucuensis (L)
cutucuensis GRF9794
riceanus GRF9654 (M)

Cyrtandra
cupulata (G,H,MT)

Dalbergaria (see *Columnea*)

Diastema (D,F,P)
vexans

Didissandra
- *frutescens* (H,M)

Didymocarpus
- *sulfureus*

Drymonia
affinis GRF98109
coccinea GRF9873
doratostyla GRF9674 (B)
ecuadorensis 'Red Elegance' (LM)
macrophylla (M)
mortoniana (L)
pulchra GRF98113
serrulata (B)
serrulata GRF9752
strigosa (B)
strigosa GRF1912
- cf. *ecuadorensis* JLC6185
- sp. aff. *teuscheri* JLC6119 (*Alloplectus*)

sp. (*umecta* ined.) (B)

Episcia (H,L,B,F)
- *xantha*

Gesneria (H,F,L)
christii
citrina
- *cuneifolia*
- *cuneifolia* WEK96151
- *cuneifolia* WEK96152
- *cuneifolia* WEK96155
- *cuneifolia* WEK96157
- *cuneifolia* WEK96158
- *cuneifolia* 'Esperanza'
- *cuneifolia* 'Quebradillas'

pedunculosa USBRG97-102 (S,T)
- *reticulata*
- *rupincola*

ventricosa (M)

***Glossoloma* (*Alloplectus*)**
bolivianum USBRG95-140 (M)
- *ichthyoderma* JLC5626
- *martinianum* JLC6043

sp. aff. *panamense* GRF9781 (orange)
sp. aff. *purpureum* USBRG98-030
sp. aff. *schultzii* GRF97103

***Gloxinella* (*Gloxinia*)** (D)
lindeniana (F,L)

Gloxinia (D)
perennis (LM)
perennis 'Insignis' (L)
xanthophylla (*Anodiscus*) (M)
xanthophylla (*Anodiscus*) (Ecuador) GRF97109

***Gloxiniopsis* (*Gloxinia*)** (D)
racemosa (L)

Haberlea (A,R)
rhodopensis

Hemiboea (D)
subcapitata (L)

Henckelia (H,P)
- *incana*

Heppiella (D)
ulmifolia GRF98172

Kohleria (D)
hirsuta
spicata (M)

Lysionotus (LM)
pauciflorus var. *pauciflorus*

Monophyllaea (H,LM)
horsfieldii

Monopyle
macrocarpa GRF94123

Moussonia (M)
deppeana
• *elegans*
• *elegans* GRF9407
Napeanthus (H)
costaricensis (F,P)
Negria
• *rhabdothamnoides* (T)
Nematanthus
albus (sp. "Santa Teresa") (B)
australis (B)
• *brasiliensis*
corticola (B)
fissus GRF9938
• *fluminensis*
• *fritschii*
• *punctatus* MP0052
strigillosus AC1434 (B)
wettsteinii (B)
wiehleri MP0050 (sp. aff. *albus*)
Neomortonia
nummularia
Ornithoboea
wildeana (LM)
Paliavana (S,T)
prasinata
prasinata GRF732
• *plumerioides* (Cabral)
tenuiflora
Paradrymonia
decurrens (L)
• sp. JLC5731 (F,P)
***Pearcea* (*Parakohleria*)**
sp. GRF9780 (yellow)
Pentadenia (see *Columnea*)
Phinaea (D,F,P)
divaricata
multiflora 'Tracery'
Ramonda (A,R)
• *myconi*
myconi —
white
lavender
pink
• clone G
Rhynchoglossum (H,L)
gardneri
Rhytidophyllum (G,H,S,T)
auriculatum
tomentosum
villosulum
Rufodorsia (F,LM)
• *minor*
Saintpaulia (F,R)
• *ionantha*
• *orbicularis*
shumensis
***Seemannia* (*Gloxinia*)** (D)
gymnostoma (LM)
sylvatica (F,L)
sylvatica GRF9943 (Brazil)
sylvatica USBRG96-002 (Bolivia)
Sinningia (D)
aggregata (M)
aghensis (T)
aghensis AC 2356
allagophylla (MT)
allagophylla GRF9922
allagophylla GRF9929
allagophylla GRF9968
allagophylla (yellow)
• *amambayensis* (L)
• *araneosa* (F,L)
brasiliensis (M)
brasiliensis 'Verde'
brasiliensis AC1314
bulbosa (T)
calcaria MP891 (F,L)
carangolensis (M)
cardinalis (F,LM)
cardinalis (compact) (F,L)
cardinalis (dark calyx) (LM)
• *cardinalis* (orange)
cardinalis (pink)
cardinalis 'Innocent'
• *cardinalis* 'Skydiver' (LM)
cochlearis
conspicua (F,L)
conspicua GRF 9942
cooperi (LM)
cooperi AC1522 (M)
curtiflora (T)
curtiflora GRF9927
douglasii GRF91188 (LM)
douglasii GRF9936 (LM)
douglasii (pink form) (M)
elatior AC1409 (M)
elatior GRF9963
• *eumorpha*/Saltao (L)
eumorpha (lavender) (F,L)
eumorpha (pink)
eumorpha (white)
gigantifolia
glazioviana (L)
• *guttata* (LM)
harleyi MP 482
hatschbachii (L)
• *hirsuta*
iarae (F,L)
• *incarnata* (S,MT)
insularis (LM)
leopoldii (F,L)
leucotricha (F,L)
leucotricha cv. 'Max Dekking' (M)
lineata (LM)

lineata GRF9920 (LM)
lineata (highly spotted)
macrophylla
macropoda (M)
macrostachya (LM)
magnifica GRF91121 (pink) (LM)
magnifica GRF91134 (red)
mauroana (LM)
mauroana GRF9964
micans MP891 (LM)
nivalis AC1460 (L)
nordestina
piresiana (L)
- *pusilla* (F,P)
- *pusilla* 'White Sprite' (F,P)

reitzii (M)
sceptrum (T)
sceptrum AC2406 (T)
sellovii (MT)
sellovii GRF9919
sellovii 'Bolivia' USBRG96-003
- *sellovii* 'Purple Rain'
- *speciosa* 'Cabo Frio' (F,L)

speciosa 'Carangola'
speciosa 'Domingos Martins'
- *speciosa* 'Lavender Queen'

speciosa 'Sao Conrado'
speciosa AC1652
- *speciosa* AC1503

sulcata (LM)
tubiflora (S,MT)
tuberosa
warmingii (T)
warmingii GRF9921
- sp. aff. *aggregata* (yellow) (M)
- sp. aff. *reitzii* 'Black Hill' (M)

sp. aff. *reitzii* GRF9914 (magenta)
sp. aff. *warmingii* from Ilhabela MP631
- sp. "Esmeril" (L)
- sp. "Globulosa"
- sp. "Ibitioca" (LM)
- sp. "Rio das Pedras" MP1094 (F,P)
- sp. "Rio das Pedras" dark (F,P)
- sp. "Waechter" (LM)

Smithiantha (D)
- *canarina* GRF9105 (F,LM)
- *laui* GRF9117 (F,L)
- *multiflora* GRF9121 (F,LM)
- *multiflora* GRF9122 (F,LM)
- *zebrina* GRF9104 (M)

Streptocarpus
baudertii (F,R)
buchananii (B)
candidus (F,R)
confusus (U)
- *confusus* ssp. *confusus* /Swaziland

cooksonii (dark purple)
cooperi (U)
cyanandrus (F,P)
- *cyaneus* (blue) (R)
- *cyaneus* (blue/long corolla)
- *cyaneus* (lilac)

daviesii (F,U)
denticulatus (U)
- *dunnii* (U)

eylesii (U)
fanniniae (R)
fasciatus (R)
fasciatus /Krokodilpoort, E. Transvaal (R)
floribundus (R)
formosus (R)
formosus /E. Cape, Transkei
gardenii (F,L)
goetzei (U)
grandis (U)
grandis (blue form)
haygarthii (F,U)
haygarthii /Mkambati, Transkei
holstii (B,L)
johannis (F,R)
johannis /Komga, E. Cape
johannis /Weza, S. Natal (R)
sp. aff. *johannis* (F,R)
- *kentaniensis* (N. Kei River)

kirkii (F,L)
- *meyeri* /SE Transvaal (R)

meyeri /NE Cape Province
modestus (R)
- *modestus* /Magwa Falls, Transkei (R)

muscosus (L)
nobilis (M)
pallidiflorus (F,LM)
parviflorus (R)
parviflorus (mauve)
- *parviflorus* (white) (R)

parviflorus (white/mauve)
- *parviflorus* ssp. *parviflorus* /Limpopo Province

pentherianus (F,L)
polyanthus (F,L)
polyanthus subsp. *comptonii*
polyanthus subsp. *polyanthus*
polyanthus subsp. *polyanthus* /lg fl
polyanthus subsp. *polyanthus* /Valley of 1000 Hills, Natal
porphyrostachys (U)
primulifolius (F,R)
primulifolius /Valley of 1000 Hills
prolixus (F,U)
pumilus (F,P)
rexii (F,L,R)
rexii (white)
rexii (pale blue/long corolla)
rexii (white/blue mix)

rimicola (F,P)
roseoalbus (F,R)
saundersii (U)
saxorum (B)
thompsonii (B,L)
trabeculatus (U)
• *vandeleurii* (U)
variabilis (F,R)
wendlandii (U)
wilmsii (U)
wilmsii /Long Tom Pass

Titanotrichum
oldhamii (propagules)
Trichantha (see *Columnea*)
Vanhouttea (S,T)
• *brueggeri* (S,T)
Mixed alpine gesneriads
Mixed gesneriads

• Limited quantities available. Packet may contain small amount of seed

Seed Packets — $2.00 each

Please

- Make checks payable to the The Gesneriad Society in U.S. funds
- To pay by credit card, send your credit card number, expiration date, and signature, and indicate if the card is Mastercard or Visa ($6.00 minimum)
- Provide a self-addressed, stamped envelope (non-U.S. orders may include International Postal Coupons or have the postage added to their credit card bill)
- List alternate choices
- Include your membership number (first number on your mailing label)

Note

- There is a limit of one seed packet of a single variety per order
- There is a limit of 25 seed packets per order
- There is a household limit of 50 seed packets per calendar year

See page 53 for additions to the Hybrid Seed List

Seed Fund Donations

Please follow these new instructions for mailing seed donations:

Donations mailed from anywhere in the United States should be sent to:

Karyn Cichocki
79 Beaver Run Road
Lafayette, NJ 07848

Donations from outside the U.S.A. (Canada and other international locations) should be sent to:

Marilyn Allen
8 Brackenridge Place
Port Moody, BC, Canada V3H 4G4

ADVERTISERS DIRECTORY

From the Editor – Name Changes

Starting with this issue of GESNERIADS, we will be publishing plant names officially recognized on the World Checklist of Gesneriaceae which is available on-line at <http://persoon.si.edu/Gesneriaceae/Checklist>. This will help to standardize gesneriad names for our readers by referencing the most up-to-date information being published about gesneriads. We will be citing the former/previous name in parenthesis after the new name for quite some time until the latest names become more familiar and commonly used.

Articles in this issue explain the most current changes and why new names are replacing some of the more familiar ones we know. The accompanying illustrations will also help identify many of the plants that are being grown today with their new (and former) names given in the captions.

Some gesneriads, like *Columnea hispida* first published in 1788, have maintained the same name originally used over 200 years ago. Other gesneriads, like *Achimenes erecta*, have been published under more than 30 different names over a 250-year period. The plant pictured on the cover of this issue is the first gesneriad species I ever grew almost 30 years ago. My original plant was labeled *Seemannia latifolia*, an outdated name even at that time. After joining AGGS and reading about this plant, I learned it had a new name – *Gloxinia sylvatica*. I still grow this species, but now I will need to re-label it *Seemannia sylvatica*.

As taxonomists continue working with gesneriads, we can expect new research to conclude that additional plant names need to be changed and will be published. I plan to increase my supply of labels as well as pencils with very large erasers.

J.K.

A New Classification of the Western Hemisphere Gesneriaceae

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In 1995 Burtt & Wiehler published a classification of the entire family Gesneriaceae based almost exclusively on evidence from structural characters found in flowers, fruits, and vegetative morphology and anatomy, as well as from their own observations. The information was supplemented by geographic distribution, chromosome numbers, and hybridization data compiled from several sources listed in their paper. They also wrote briefly of some of the history of the classification of the family since it was established by Richard & Jussieu in 1816.

Since 1995 there has been much additional research published on the relationships and classification of genera in the Gesneriaceae, coming especially from molecular and phylogenetic research. A new classification is therefore needed to reflect results from the combination of morphological characters of the plants with results from molecular studies being undertaken in several laboratories. As the shapes and structures of flowers can be influenced by the pollinators that are attracted to the flowers, they may not be good indicators of relationships. Therefore, botanists have had to look at more than just morphology to get a truer picture of generic relationships. Molecular systematics can sometimes reveal relationships that might be misinterpreted because of morphological features that appear similar in unrelated species.

Recent research including molecular systematics has opened a new perspective on the classification of Gesneriaceae. Our understanding of relationships has changed so much that we believe that a new classification should be proposed for researchers and growers of these plants to have a more realistic framework with which to work.

Here we are only including the plants of the Gesneriaceae in this list that occur natively in the Western Hemisphere as we are more familiar with these plants. Researchers on Gesneriaceae of the Old World or Eastern Hemisphere are working diligently on the relationships of those plants, and are more knowledgeable of their classification. The classification of Old World Gesneriaceae has changed recently and is likely to change even more during the next few years as research continues.

In the list below we include the tribes and genera that occur natively in the Western Hemisphere from Mexico south to Chile, east to the Guianas, and Brazil, as well as the Caribbean region. Within the tribes the genera are arranged in alphabetic order and include the approximate numbers of species in each genus [based on World Checklist of Gesneriaceae <http://persoon.si.edu/Gesneriaceae/Checklist>], as well as the general distribution of the genus [based on a database of actual specimens]. The last column has references (numbered) to recent work on the genus that reflects the new classification, or provides evidence for a new placement of the genus, as well as notes (lettered) about the placement of the genus in a tribe or other information. The numbers in parentheses of genera and species in each tribe will follow the name of the tribe. We are not including chromosome numbers in this list as these can be obtained from the Burtt & Wiehler list (1995). The genera listed reflect the biases of the authors who over the past three decades have gathered information about genera and species of Gesneriaceae, and produced a database of specimens examined in herbaria, as well as a World Checklist of Gesneriaceae (Skog & Boggan 2006) from which the information about the numbers of species and distribution have come. The number of species cited reflects the number of validly published species that are currently listed in the Checklist. There are numerous genera that have not been revised recently, and new revisions of genera may either increase or decrease the numbers of species. We have tried to gather all of the valid names that we could find into the online Checklist. At the bottom of the list are three genera that are problematic, and may or may not be within the Gesneriaceae. Finally, we should point out that classification is not static, and that membership in some tribes is uncertain, especially Beslerieae, and is subject to change with new information.

Gesneriaceae Subfamily Gesnerioideae (62/1049)

(Genus, Number of Species, General Distribution, References)

Tribe Beslerieae (6/220)

Besleria	153	Widespread in Mexico, C & S America, Caribbean region	27
Anetanthus	2	Colombia to Bolivia & Brazil	23, a
Cremosperma	21	Costa Rica to Peru	21
Gasteranthus	38	Mexico to Bolivia	21, 27
Reldia	5	Costa Rica to Peru	10, 21, 27
Tylopsacas	1	Brazil, Guyana & Venezuela	23

Tribe Coronanthereae (3/3)

Asteranthera	1	Argentina & Chile	24, 25, b
Mitraria	1	Argentina & Chile	24, 25, b
Sarmienta	1	Chile	11, 24, 25, b

Tribe Episcieae (22/477)

Alloplectus	6	Costa Rica, Northwestern S America	3, 4, 5, c
Alsobia	2	Mexico & Costa Rica	4
Chrysothemis	6	Guatemala to Ecuador, Brazil, Guianas & Caribbean region	4, 27
Cobananthus	1	Guatemala & Honduras	4
Codonanthe	18	Mexico to Bolivia, Brazil, Guianas & Southeastern Caribbean region	4, 27
Codonanthopsis	4	Northwestern S America, Brazil & Guianas	4
Columnea	196	Mexico to Bolivia, Brazil, Guianas & Caribbean region	4, 8
Corytoplectus	9	Northwestern S America to Bolivia, Brazil & Guyana	4, 27
Crantzia	4	Guyana, Venezuela & E Caribbean region	3, 4
Cremersia	1	French Guiana	4
Drymonia	68	Mexico to Bolivia, Brazil, Guianas & Caribbean region	3, 4, 27
Episcia	8	Mexico to Peru, Brazil, Guianas & Martinique	4, 27
Glossoloma	22	Mexico to Bolivia	3, 4
Lampadaria	1	Guyana	4
Lembocarpus	1	French Guiana and Surinam	4, 17
Nautilocalyx	51	Mexico to Bolivia, Brazil, Guianas & E Caribbean region	4, 27
Nematanthus	30	Brazil & Northern S America	3, 4, 27
Neomortonia	2	Mexico, Costa Rica, Panama to Ecuador	4, 27
Oerstedina	3	Mexico, Costa Rica, Panama	4
Paradrymonia	38	Mexico to Bolivia, Brazil & Guianas	4, 27
Rhoogeton	2	Brazil, Guyana & Venezuela	4
Rufodorsia	4	Nicaragua to Panama	4

Tribe Gesnerieae (4/76)

Bellonia	2	Cuba, Hispaniola	17, d
Gesneria	55	Caribbean region	18, 27
Pheidonocarpa	1	Cuba, Jamaica	18
Rhytidophyllum	18	Caribbean region	18, 27

Tribe Gloxinieae (20/167)

Achimenes	27	Mexico, Central America & N South America, Caribbean region	14, 16, 17
Amalophyllon	1+	Mexico to Northwestern S America	e
Diastema	21	Mexico to Northwestern S America, Brazil	17
Eucodonia	2	Mexico	17
Gloxinella	1	Peru	17
Gloxinia	3	Widespread in C & S America, Caribbean region	7, 17, f
Gloxiniopsis	1	Colombia	17
Goyazia	3	Brazil	17
Heppiella	4	Northwestern S America & Brazil	17
Kohleria	20	Mexico to Northwestern S America, Caribbean region	7, 17, g
Mandirola	3	Brazil	17
Monopyle	18	Guatemala to Northwestern S America	17
Moussonia	12	Mexico to Panama	17
Niphaea	3	Mexico to Nicaragua, Peru, Venezuela	17
Nomopyle	2	Ecuador & Peru	17
Pearcea	17	Colombia to Bolivia	9, 17
Phinaea	3	Mexico to Northwestern S America, Brazil, Caribbean Region	17
Seemannia	4	Ecuador to Bolivia	17
Smithiantha	6	Mexico	17
Solenophora	16	Mexico to Panama	17, 26

Tribe Napeantheae (3/22)

Cremospermopsis	2	Colombia	22, h
Napeanthus	18	Mexico to Bolivia, Brazil, Guianas & Trinidad	24
Resia	2	Colombia & Venezuela	20

Tribe Sinningieae (3/82)

Paliavana	6	Brazil	13, 27, i
Sinningia	66	Mexico to Panama, Colombia to Bolivia, Argentina, Paraguay, Guianas & Brazil	13, 27, i
Vanhouttea	10	Brazil	13, 27, i

Tribe Sphaerorrhizeae (1/2)

Sphaerorrhiza	2	Brazil	17

Subfamily Cyrtandroideae (1/1)

Tribe Epithemateae

Rhynchoglossum	1	Mexico to Honduras, Costa Rica to Peru	11, 24, j

Not Placed (3/3)

Cubitanthus	1	Brazil	1, k
Peltanthera	1	Costa Rica & Peru	27, l
Sanango	1	Ecuador & Peru	27, l

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Notes:

a. *Anetanthus* is an unusual genus in the Gesneriaceae (Smith 2000) and has many characters, like *Cubitanthus*, that shows similarities with the Snapdragon family (Scrophulariaceae). Ivanina (1966) concluded that *Anetanthus* would be better placed in the latter family.

b. The Coronanthereae were listed as a separate subfamily by Burtt & Wiehler 1995, but subsequent authors (Smith et al. 1997; Weber, 2004) have included the genera formerly placed in that subfamily into the subfamily Gesnerioideae (restoring the family Gesneriaceae to including only 2 subfamilies), because of molecular characters. The Coronanthereae also include the genera *Fieldia, Lenbrassia, Coronanthera, Negria, Rhabdothamnus*, and *Depanthus* found on South Pacific islands and Australia.

c. Many species formerly in *Alloplectus* are now in *Columnea, Crantzia, Drymonia, Glossoloma*, and *Nematanthus* (see Clark 2005).

d. *Bellonia* was formerly placed in Gloxinieae (Burtt & Wiehler, 1995), see Roalson et al. 2005.

e. *Amalophyllon*, currently under investigation by John Boggan, will probably include species of *Niphaea* and *Phinaea*, and the number of species may be 8-10.

f. *Gloxinia* now includes *Anodiscus* and *Koellikeria*, but excludes several species now moved to other genera, e.g., *Seemannia*, etc., see Roalson et al. 2005.

g. *Kohleria* now includes the genus *Capanea*, see Roalson et al. 2005.

h. Skog & Kvist (2002) suggest that this genus may be better placed in the Napeantheae, because of the presence of inflorescence bracts, instead of in the Beslerieae with *Cremosperma*. As a tribe, the Beslerieae is defined as having inflorescences without bracts whereas the Napeantheae have inflorescence bracts.

i. *Paliavana* and *Vanhouttea* are so closely related to *Sinningia* that Perret and his collaborators believe that the three genera should be combined (Perret, 2003). However, *Paliavana* is the oldest name for a genus that might include the three genera.

j. *Rhynchoglossum* is a Southeast Asian genus of 13 species, with only one (*Rhynchoglossum azureum*) reaching the Western Hemisphere, and the only member of the Old World Gesneriaceae to appear natively in the New World.

k. *Cubitanthus* may not really be a member of the Gesneriaceae (Barringer, pers. comm.). See also Smith 2000 who expresses doubt about its placement in Gesneriaceae.

l. *Sanango* was placed in Gesnerieae by Burtt and Wiehler (1995) and others, but now "...appears to be a lineage outside of Gesnerioideae and possibly the Gesneriaceae, along with the genus *Peltanthera*..." (Zimmer et al. 2002). See also Oxelman et al. 1999.

Columnea parimicola
(formerly *Bucinellina parimicola*)

Columnea ornata
(formerly *Dalbergaria ornata*)

Columnea spathulata
(formerly *Pentadenia spathulata*)

*Columnea moore*i
(formerly *Trichantha moorei*)

(All photos from the GRF slide collection)

Kohleria tigridia
(formerly *Capanea grandiflora*)

Pearcea abunda
(formerly *Parakohleria abunda*)

Recent Name Changes in the Tribe Episcieae

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The famous geneticist, Theodosius Dobzhansky in 1973 wrote an essay emphasizing that "Nothing in biology makes sense except in the light of evolution". A common misconception about taxonomists like me is that we are solely dedicated to the important, but often underappreciated, discipline of naming species. Taxonomists are also evolutionary biologists, and one of our fundamental research goals is to document evolutionary relationships so that we can present a classification system that reflects the relationships of biodiversity. My research aims to understand Gesneriaceae from an evolutionary perspective, in an ecological – and molecular – context. I use a variety of methods for gathering data such as DNA sequencing, studying anatomical and morphological features, making field observations, and using collections (e.g., herbaria). My research is dedicated to promoting a better understanding of biodiversity and my target group is Gesneriaceae.

Many of you reading this article may be affected by the results of my research because I recently (Clark 2005) changed the scientific names of some of the plants that you may grow. I would like you to use these recently changed scientific names when you grow, discuss, and show gesneriads. An important method for staying informed on the newest discoveries in Gesneriaceae classification is using up-to-date names.

The findings expressed in this article summarize progress that I have made since 1994 on understanding gesneriads through field work (5+ years of living in rainforests) that is complemented by evolutionary studies. The scientific names that I recently changed are based on extensive studies and publications in peer-reviewed journals. The evolutionary aspect of my research is paramount because as a conservationist and scientist I aim to promote a better understanding of biodiversity by showing how gesneriads are related to each other by detecting their patterns of diversification.

In 2002 I published an article in THE GLOXINIAN (=GESNERIADS) titled, "Turning *Alloplectus* upside down". Over 140 names had been attributed to *Alloplectus*, and recently I surveyed the entire genus and included only five species that actually belong. Recognizing a genus of five species that has a history of 140 names may seem illogical. How can such a traditionally diverse genus now be recognized to include only five species? The answer is that what was traditionally recognized as "*Alloplectus*" has been shown to nest in seven different lineages. Thus, there were species that had been called *Alloplectus* that are more closely related to *Drymonia, Nematanthus*, and *Columnea*. The traditional concept of *Alloplectus* does not reflect a biological entity; traditional *Alloplectus* only existed as an artificial concept in the minds of botanists. In fact, the original description of *Alloplectus* was based on *Nematanthus hirtellus* from southeastern Brazil. Retaining the unrelated lineages in *Alloplectus* would be like classifying birds and bats

together because they both fly. Flight in birds and bats is independently derived much like many of the characters that traditional *Alloplectus* species share in common.

If you were in the rainforest and had the option of photographing a large bee-pollinated flower or a small white berry, what would you chose? Charismatic features of gesneriads are often the most difficult to interpret from an evolutionary context because of rapid coevolution with pollinators. Historically, most horticulturalists and taxonomists utilized corolla shapes and forms as bases for classification. Flowers get collected and photographed because of captivating features associated with bee, bat, or hummingbird pollination. In contrast, scientists often depend on DNA to help tease out evolutionary relationships. Unfortunately, DNA and flower morphology are only pieces of the puzzle for understanding the evolution of the organism. The context for understanding evolutionary relationships makes sense with things that we can visualize such as the presence of red tubular flowers often associated with hummingbird pollination. I have been able to understand and document some groups of the tribe Episcieae (800+ species and 22 genera), but not all groups. For example, I know that the genera *Paradrymonia* and *Nautilocalyx* are artificial, but I have not been able to adequately study them to warrant changes in their classification. Even though the molecular data suggest that these genera are artificial, I believe that it is necessary to provide a morphological-based context to justify a new classification.

Molecular data are useful for assessing character evolution and morphogical diversification; however, I wouldn't expect you to read a chromatogram produced from DNA sequencing to recognize a genus. This is why I have refrained from making changes to artificial genera that I have not carefully studied and only understand from a molecular-based context. One major advantage of molecular data is that it can fill in gaps when we lack information on the morphology of a species. For example, there is a dearth of knowledge on fruit morphology for many groups of Gesneriaceae. The genus *Columnea* usually has berries, but some species have capsules; the genus *Drymonia* usually has capsules, but some species have berries. The latter was an undocumented feature in *Drymonia* until recently (Clark et al. 2006). Many people are surprised to learn that berries exist in *Drymonia*, but most species of *Drymonia* are only documented from flowering specimens. It is because of our limited understanding of morphological features in many Gesneriaceae that species are erroneously classified into artificial groups.

There is a common misunderstanding that a rift exists in the scientific community between "morphologists" and "moleculoids" or between "field-based" and "lab-based" researchers. The major obstacle we face in the classification of Gesneriaceae is that we have molecular-based studies with insufficient information on morphology. Thus, there is no context for relaying this information. I use a variety of methods because after spending over five years in the field I had not made much progress in an attempt to figure out Episcieae genera (e.g., *Columnea, Alloplectus, Drymonia*, etc.), and I have concluded that a variety of methods is the only way to detect the pattern of diversification and create a classification system that more accurately reflects phylogeny (e.g., evolutionary relationships).

Explained below are changes that I have recently made in common genera (Clark 2005) that are grown by horticulturalists.

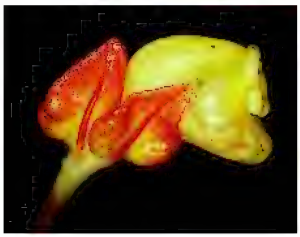
Alloplectus hispidus from Ecuador

Alloplectus hispidus
fruit

Glossoloma sp. nov.
fruit

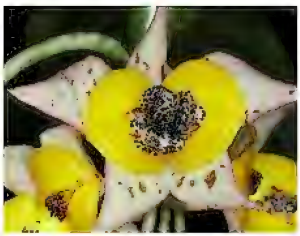
Glossoloma herthae from Ecuador

Flower and fruit of *Drymonia turrialvae* from Panama



Drymonia ambonensis
from Panama

Drymonia sp. nov. from Ecuador



Drymonia punctulata
fruit from Ecuador

Crantzia cristata fruit from Dominica and flower from Martinique

Alloplectus (5 species): As far as I know, this genus as it now stands has never been widely cultivated. Species from this genus are most commonly collected in Colombia, northern Ecuador, and occasionally in Costa Rica, Venezuela and Peru. An image of *Alloplectus hispidus* is shown on page 22 from a recent expedition that I conducted in Ecuador.

The habit of *Alloplectus* is an epiphyte with prolifically branched stems. Species of *Alloplectus* have flowers that are non-resupinate (see explanation of resupinate flowers below in *Glossoloma*) and small leaves with inconspicuous secondary venation. Because of the difficulties in locating wild populations, I do not expect to see this genus broadly cultivated; however, the potential for horticulturalists to grow *Alloplectus* is desirable because of its compact habit and attractive pubescence.

Glossoloma (27 species): The only species from this genus that I have seen in cultivation is pictured with this article (*Glossoloma herthae*). Bob and Dee Stewart (Stow, MA) gave the Smithsonian Institution cuttings of this species and I have also seen this grown at the Atlanta Botanical Garden (Atlanta, GA). Other unpublished and published names have been used to refer to this species and to avoid any potential confusion they will not be used in this article.

Glossoloma is easily differentiated from other genera by resupinate (upside down) flowers. Resupinate flowers were explained in detail in THE GLOXINIAN (Clark 2002) and I will also explain them here by referring to the image of *Glossoloma herthae* on page 22. If you visualize the number "6" and turn it upside down you get the number "9". Essentially, this is the definition of resupination; the flowers are upside down relative to other closely related members. The pistil and stamens are on the lower (not upper portion) of the flower, the nectary gland is on the lower (not upper) portion of the flower; the petal lobe orientation is three up and two down (most other gesneriads have two up and three down). Other characters that are useful for recognizing *Glossoloma* are the following: unbranched terrestrial subshrubs and laterally compressed flowers with a non-constricted pouch.

Drymonia (140+ species, includes many recent new combinations from *Alloplectus, Paradrymonia*, and *Nautilocalyx*): *Drymonia* is one of the most morphologically diverse genera in the Gesneriaceae. The traditional character for identification of *Drymonia* is the poricidal anther dehiscence, commonly referred to as "salt and pepper shaker" anthers. I have found that poricidal anthers are related to a pollination syndrome and this syndrome has been lost in many groups that were traditionally recognized as belonging to *Alloplectus, Paradrymonia*, and *Nautilocalyx*. Thus, the traditional generic concept of *Drymonia* is artificial because it is associated with one pollination syndrome; just because a species lacks poricidal anthers does not signify that it is unrelated to a species with longitudinal anther dehiscence. As a result, I transferred *Alloplectus ambonensis* to *Drymonia ambonensis*. The sister species to this non-poricidal anther species is *Drymonia turrialvae* (with poricidal anthers). Thus, presumably these species coevolved with different pollinators, but otherwise are very similar (square stems, berry fruits, erect pedicels with glands, understory herbs, etc.).

Crantzia (4 species, all species were traditionally recognized as "*Alloplectus*"): *Crantzia* is differentiated primarily by resupinate flowers (one exception being *C. tigrina*), being epiphytes with prolifically branched

stems, and unpouched corollas. There are four species of *Crantzia* distributed primarily in the Caribbean. One species (*C. tigrina*) is known from the coastal mountains on the adjacent mainland of Venezuela and one species is commonly collected above 1000 meters on the Guiana Shield. There are two species of *Crantzia* in cultivation; *Crantzia cristata* (formerly *Alloplectus cristatus*) and *Crantzia epirotes*. *Crantzia cristata* is a common epiphytic climber from the Caribbean. I have seen this recently grown by Robert Hall (Toronto, Canada). *Crantzia epirotes* is a common epiphyte in the Guiana Shield and is geographically isolated from all other members of the genus. I recognize this as a separate species, but it has traditionally been treated as a variety of the Caribbean species. Many of you have independently come to the same conclusion from growing these two species that they are easy to differentiate.

I have not changed generic concepts in *Nautilocalyx* and *Paradrymonia*, but I expect to do so in the future. I welcome observations from you about growing these and other gesneriads because advancements in systematics is best achieved through extensive field-, lab-, and collections-based research. If we are to understand the evolution and classification of Gesneriaceae, then we need to employ a variety of methods for exploring their patterns of morphological and molecular diversification.

(All photos from John L. Clark field collections)

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What Happened to *Gloxinia?*

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The genus *Gloxinia* was created in 1789 by L'Héritier with a single species, *Gloxinia maculata*. This was a new name for a plant that Linnaeus had already described in 1753 as *Martynia perennis*, and under current nomenclatural rules the earliest specific epithet (i.e., *perennis*) must be used; therefore the correct name for this species is *Gloxinia perennis*. Because L'Héritier included only one species in his new genus, this species is automatically the "type species"; it will always be included in the genus and membership of any other species in the genus must be evaluated by comparison with this species.

Over the next hundred years, several dozen new species of *Gloxinia* were described, most of which were later moved to other genera (most notably *Gloxinia speciosa*, now *Sinningia speciosa*). Fritsch (1893-1894) recognized only 6 species in the genus, and although a few more species were described in the 20th Century, it remained a small genus until 1976 when Hans Wiehler redefined the genus, expanding it to 15 species to include additional species that had previously been placed in *Achimenes, Kohleria, Monopyle*, and *Seemannia*. Wiehler's classification was widely accepted for almost 30 years but has been challenged by recent research at the Smithsonian Institution on *Gloxinia* and its relatives in tribe Gloxinieae (Zimmer et al. 2002, Roalson et al. 2005a). The results of this research demonstrated that *Gloxinia* as defined by Wiehler (1976, 1983) included several species that were more closely related to other genera than to *G. perennis*, while leaving out species that were more closely related to *G. perennis* than to other species that had been included in *Gloxinia*. Wiehler based his classification of this group almost entirely upon his hybridization studies but in doing so created a genus that was not only unnatural but also poorly defined and morphologically heterogeneous. For these reasons the genus has again been redefined (Roalson et al. 2005b). *Gloxinia* now includes the species formerly included in *Anodiscus* and *Koellikeria*, and many of the species that were formerly included in *Gloxinia* are now distributed among several smaller genera, all of which are now distinct and well-defined.

One early surprise in our research was the discovery of a close relationship among *Gloxinia perennis, Koellikeria erinoides*, and *Anodiscus xanthophyllus*, a relationship that had never been suggested previously. In fact, molecular phylogenies demonstrated that these three species are more closely related to each other than to any other species previously included in *Gloxinia*. These three species share several characteristics, particularly a racemose flowering stem, and so we have united them under *Gloxinia*, the oldest generic name of the three. Another discovery was that several species previously included in *Gloxinia* are more closely related to *Monopyle* than to *Gloxinia*. These species also have fruits that are fleshy capsules very similar to those found in *Monopyle*; the fruit of *G. perennis* is a dry capsule. We have removed these species from *Gloxinia*, but as they do not fit precisely into *Monopyle*, we have created new genera for some of them.

Because many of the species involved in these name changes are cultivated, there will surely be some confusion over their proper names in coming

Gloxinia perennis
(photo by M.H. Stone)

Gloxinia erinoides
(formerly *Koellikeria erinoides*)
photo by Michael Riley

Gloxinia xanthophylla
(formerly *Anodiscus xanthophyllus*)
photo by John Boggan

years. Perhaps the most confusion will come from the intergeneric names (see accompanying article). But in all cases, our molecular discoveries were paralleled by patterns of morphological similarities and differences among the species we looked at, and by basing our generic classification upon both molecular relationships and morphological characters, we believe this will prove to be a natural, stable, and sensible classification.

Gloxinia is now restricted to just three species, two of which were until recently classified in other genera: *G. perennis, G.* (formerly *Koellikeria*) *erinoides*, and *G.* (formerly *Anodiscus*) *xanthophylla*. These three species together make *Gloxinia* a well-defined group of species whose flowers are produced on racemes, a character found in just a few other genera in the tribe (e.g., *Smithiantha*). All three species have flowers that suggest insect pollination, and both *G. perennis* and *G. erinoides* have fragrant flowers, an unusual characteristic in the tribe. All other species have been transferred to other genera: one species (*G. reflexa*) to *Monopyle*, four to the resurrected genus *Seemannia*, three to the resurrected genus *Mandirola*, and the rest to the new genera *Gloxinella, Gloxiniopsis, Nomopyle*, and *Sphaerorrhiza. Gloxinia* is primarily an Andean genus, although *G. perennis* is widely cultivated and naturalized outside the Andes, and the range of *G. erinoides* extends into Central America to Costa Rica.

Gloxinella includes one species, *G. lindeniana*, which has bounced between *Gloxinia* and *Kohleria* over the years; molecular work has demonstrated that this species is closely related to neither of those genera. *Gloxinella lindeniana* is more closely related to *Monopyle* and it has a *Monopyle*-like fruit. Until very recently this species was known from a single original collection of unknown origin; all plants in cultivation were apparently derived from that one collection. The species has recently been re-discovered in Cajamarca, Peru.

Gloxiniopsis includes one species, *G. racemosa* (formerly *Gloxinia racemosa*). Although superficially very similar to *Gloxinia perennis, Gloxiniopsis racemosa* is not closely related to *Gloxinia* or any other genus in the tribe. The flowers are produced in a raceme like that of *G. perennis*, but the fruit is more like that of a *Monopyle* species. The species is found in the Andes of Colombia.

Mandirola has been resurrected to include three Brazilian species formerly included in *Gloxinia: G. ichthyostoma, G. multiflora*, and *G. rupestris*. Of these, only the first is in cultivation (and the exact identity of that plant is still uncertain). The species are very similar to *Achimenes* species, and were once included in that genus. *Mandirola* is more closely related to the distinctive Brazilian genus *Goyazia* than to *Gloxinia*, and although both groups are closely related to *Gloxinia* they differ from that genus in many ways and thus we have maintained them as distinct genera.

Nomopyle is a new genus created for two species, *N. dodsonii* (formerly *Gloxinia dodsonii*) and *N. peruviana* (formerly *Niphaea peruviana*) from Ecuador and Peru, respectively. Both species have fruits very similar to those

Gloxinella lindeniana
(formerly *Gloxinia lindeniana*)
photo by Michael Riley

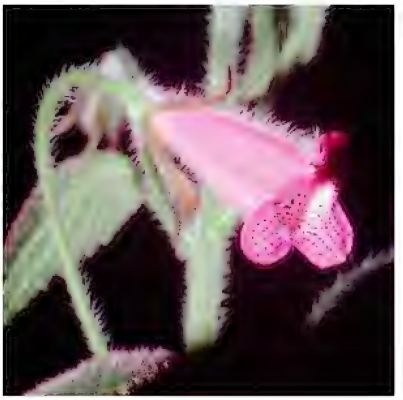
Gloxiniopsis racemosa
(formerly *Gloxinia racemosa*)
photo by Jeanne Katzenstein

Nomopyle dodsonii
(formerly
Gloxinia dodsonii)
photo by John L. Clark

Mandirola ichthyostoma
(formerly
Gloxinia ichthyostoma)
photo by Mauro Peixoto

Seemannia sylvatica
(formerly *Gloxinia sylvatica*)
photo from the GRF collection

Seemannia purpurascens
(formerly *Gloxinia purpurascens*)
photo by Michael Riley



Seemannia gymnostoma
(formerly (*Gloxinia gymnostoma*)
photo by Alain Chautems

Sphaerorrhiza sarmentiana
(formerly *Gloxinia sarmentiana*)
photo by John Evans

of *Monopyle* and they are closely related to that genus. Only *N. dodsonii* is in cultivation; this species requires low light, high humidity, and constant moisture. It does not produce scaly rhizomes.

Seemannia has been resurrected for four former *Gloxinia* species: *S. gymnostoma, S. nematanthodes, S. purpurascens*, and *S. sylvatica*. *Seemannia* was recognized as a valid genus by Fritsch (1893-1894) and several other botanists until it was synonymized under *Gloxinia* by Wiehler (1976) because hybrids between *Seemannia* species and *G. perennis* produced fertile hybrids. Because *Seemannia* and *Gloxinia* are each other's closest relatives,

we could easily have maintained them under *Gloxinia*. However, the two groups of species are different in many ways and we have chosen to treat them as two closely related but well-defined genera rather than as a single poorly defined genus. *Seemannia* species are probably most distinctive in producing long stringy rhizomes, but also have a pointed stigma and large multicellular trichomes in the throat unlike those of any other members of the tribe. The flowers are only rarely produced on racemes and seem to be primarily hummingbird pollinated; they are never fragrant. Like *Gloxinia, Seemannia* is an almost exclusively Andean genus with the greatest concentration of species in Bolivia, northern Argentina, and southern Peru; *S. sylvatica* extends north to southern Ecuador.

Sphaerorrhiza was created as a new genus to accommodate the Brazilian species *Gloxinia sarmentiana*, which proved to be misplaced not only in the genus *Gloxinia* but in the entire tribe. The most distinctive characteristic of *Sphaerorrhiza* is that the plants produce "lumpy rhizomes" unlike the scaly rhizomes found in most members of tribe Gloxinieae. The rhizomes have tuber-like swellings that easily break apart, with each piece capable of producing a new plant. This is reminiscent of the tuber-producing rhizomes that some *Sinningia* species produce and may indicate a relationship to that genus although *Sphaerorrhiza* does not seem to belong in tribe Sinningieae either; in many ways it seems to be intermediate between the two tribes. For this reason we have given it its own tribe, Sphaerorrhizeae. *Sphaerorrhiza* includes one other former *Gloxinia* species, *S. burchellii*, which is not in cultivation.

Gloxinias old and new:

Anodiscus xanthophyllus = *Gloxinia xanthophylla*
Gloxinia burchellii = *Sphaerorrhiza burchellii*
Gloxinia dodsonii = *Nomopyle dodsonii*
Gloxinia gymnostoma = *Seemannia gymnostoma*
Gloxinia ichthyostoma = *Mandirola ichthyostoma*
Gloxinia lindeniana = *Gloxinella lindeniana*
Gloxinia nematanthodes = *Seemannia nematanthodes*
Gloxinia perennis = *Gloxinia perennis*
Gloxinia planalta = *Mandirola multiflora*
Gloxinia purpurascens = *Seemannia purpurascens*
Gloxinia racemosa = *Gloxiniopsis racemosa*
Gloxinia reflexa = *Monopyle reflexa*
Gloxinia rupestris = *Mandirola rupestris*
Gloxinia sarmentiana = *Sphaerorrhiza sarmentiana*
Gloxinia speciosa = *Sinningia speciosa*
Gloxinia sylvatica = *Seemannia sylvatica*
Koellikeria erinoides = *Gloxinia erinoides*

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Grouping of then-*Gloxinia* species and hybrids at the GRF Seminar in 2001 (plants grown by Tim Anderson, Jerry Trowbridge and Hans Wiehler)

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New Intergeneric Names in the Gloxinieae (Gesneriaceae)

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New generic concepts in the tribe Gloxinieae (Roalson et al. 2005b), including the resurrection of several old genera and the description of several new ones, requires a renaming of several hybrid genera (in botanical nomenclature known as nothogenera) in the tribe. Among these changes are the disassembly of the unnatural genus *Gloxinia* as defined by Hans Wiehler (1976a, 1983) into several smaller genera and the synonymy of the genus *Koellikeria* under *Gloxinia*. The full details of the generic reorganization and the data supporting these changes can be found elsewhere (Roalson et al. 2005a; Roalson et al. 2005b; Roalson et al., in prep.). Due to these changes several new intergeneric names are required whereas others become unnecessary.

Besides requiring some new names, these generic rearrangements suggest intergeneric hybrid combinations that have not yet been accomplished or possibly even attempted. For example, the discovery of a close relationship between *Gloxinia perennis, G. erinoides* (formerly *Koellikeria erinoides*) and *G. xanthophylla* (formerly *Anodiscus xanthopyllus*) suggests not only that these three species should cross easily with each other, but that the latter two species will probably cross with many of the same genera with which *G. perennis* has already been crossed, e.g., *Smithiantha*. Similarly, the merger of *Capanea* with *Kohleria* suggests that former members of the genus *Capanea* should cross easily with various *Kohleria* species (although such hybrids would not now be considered intergeneric). Finally, the close relationship of some of the former *Gloxinia* species (*Gloxiniopsis racemosa, Gloxinella lindeniana* and *Nomopyle dodsonii*) to *Diastema, Phinaea*, and *Monopyle* suggests that many more crosses among members of this group should be possible although few have already been made (e.g., ×*Phinastema,* ×*Gloxinistema*).

Future studies of relationships and generic boundaries in the Gloxinieae may necessitate additional changes to hybrid names. Particularly, any changes necessary to the generic limits of *Achimenes* may require numerous changes to named hybrids given the popular use of this genus in intergeneric hybridization.

Listed below (in **bold**) are the currently accepted nothogenera of tribe Gloxinieae. Several of the changes involving *Gloxinia* are confusing due to the inclusion of *Koellikeria erinoides* in *Gloxinia* and the removal of several species as *Seemannia*. Some of these intergeneric names remain valid but the hybrids and cultivars previously included in them may be moved to another nothogenus, in some cases leaving the old nothogenus with no members although the name itself remains valid and available.

×***Achicodonia*** Wiehler – Hybrids between *Achimenes* and *Eucodonia* are placed in this nothogenus and remain unaffected by current generic name changes. Cultivars include 'Cornell Gem', 'Dark Star', and 'Isis'.

×***Achimenantha*** H.E.Moore – Hybrids between *Achimenes* and *Smithiantha* are placed in this nothogenus and remain unaffected by current generic name changes. Numerous cultivars are in cultivation, including many that are indistinguishable from *Achimenes* cultivars, possibly because at least some hybrids between *Achimenes* and *Smithiantha* seem to be fertile and can be backcrossed to *Achimenes*. It is unclear whether some cultivars being sold as ×*Achimenantha* truly have any *Smithiantha* parentage.

×***Diaskohleria*** Wiehler – The hybrid between *Diastema vexans* and *Kohleria spicata* (Wiehler 1976b; Dates 1986) does not require a new name as *D. vexans* is currently retained in the genus *Diastema* although its exact placement is unclear (Roalson et al. 2005a). Molecular studies have suggested that *D. vexans* is more closely related to *Pearcea* and *Kohleria* than it is to other species of *Diastema*, and there is a possibility that future studies will support the exclusion of *D. vexans* from *Diastema* which would then necessitate a new nothogeneric name. Because of the possible close relationship of *D. vexans* to *Pearcea* and *Kohleria*, further crosses with those two genera should be attempted.

×***Eucodonella*** E.H.Roalson & J.K.Boggan, nothogen. nov. – The hybrid between *Gloxinia lindeniana* and *Eucodonia verticillata* (Wiehler 1976b; Dates 1986), previously known as ×*Glocodonia*, requires a name change because *Gloxinia lindeniana* has been transferred to the new genus *Gloxinella* (Roalson et al. 2005b). No cultivars are known and this nothogenus does not appear to be in cultivation. The name ×*Glocodonia* is still available if any crosses are produced between *Eucodonia* and any of the species now placed in *Gloxinia* (i.e., *G. perennis, G. erinoides*, or *G. xanthophylla*). Such crosses should be attempted as *G. perennis* has been successfully crossed with *Smithiantha* which is a close relative of *Eucodonia* (Roalson et al. 2005a).

×*Glocodonia* Wiehler = ×*Eucodonella* E.H.Roalson & J.K.Boggan – The one hybrid produced between *Gloxinia lindeniana* and *Eucodonia* has become a member of ×*Eucodonella* E.H.Roalson & J.K.Boggan with the transfer of *G. lindeniana* to *Gloxinella*. The name ×*Glocodonia* remains available for other hybrids between *Gloxinia* and *Eucodonia* although none are now known.

×*Glokeria* Wiehler = *Gloxinia* L'Heritier – The hybrid between *Koellikeria erinoides* and *Gloxinia perennis* (Roberts 1985; Dates 1986) is no longer an intergeneric hybrid as *K. erinoides* is now included in *Gloxinia* (Roalson et al. 2005b). The single cultivar now in cultivation thus becomes *Gloxinia* 'Dragon Song'.

×*Glokohleria* Wiehler (in part, involving the *Seemannia* group) = ×*Seemakohleria* E.H.Roalson & J.K.Boggan.

×***Glokohleria*** Wiehler – With the transfer of *Koellikeria erinoides* to *Gloxinia*, it is necessary to change the nomenclature of the former *Koellikeria* × *Kohleria* hybrids (Wiehler 1968, 1976b; Dates 1986) to coincide with the new generic placement. Thus all ×*Koellikohleria* hybrids and cultivars are now in ×*Glokohleria*. While the name ×*Glokohleria* was originally created for hybrids formed by species now

×*Glokohleria rosea*
(formerly ×*Koellikohleria rosea*)
photo by M. H. Stone

Seemannia 'Medusa'
(formerly *Gloxinia* 'Medusa')
photo by M. H. Stone

×*Gloxinistema* 'First Frost'
(formerly ×*Gloxistema* 'First Frost)
photo by Jeanne Katzenstein

Seemannia 'Chic'
(formerly *Gloxinia* 'Chic')
photo by John Evans

×*Gloximannia* 'Circe'
(formerly *Gloxinia* 'Circe')
photo by David Turley

×*Seemakohleria* 'Scarlet Letter'
(formerly ×*Glokohleria* 'Scarlet Letter')
photo by Michael Kartuz

treated as *Seemannia*, there is no type connection of nothogeneric names so application of ×*Glokohleria* is appropriate for any hybrids between species now included in *Gloxinia* and *Kohleria*, respectively. (International Code of Botanical Nomenclature, Articles *H8.1* & *H9.1*). Cultivars are 'Goblin' and 'Pink Heaven'. One other hybrid is currently in cultivation as ×*Koellikohleria rosea*. Because this was named as a species, rather than as a cultivar, a formal transfer is required: ×*Glokohleria rosea* (Wiehler) E.H.Roalson & J.K.Boggan, comb. nov. Basionym: ×*Koellikohleria rosea* Wiehler, Baileya 16(1): 30 (1968). Meanwhile, several plants formerly cultivated as ×*Glokohleria* involve crosses between *Kohleria* and a group of species of *Gloxinia* which are now placed in *Seemannia*, and these cultivars are now placed in ×*Seemakohleria* (see below).

×***Gloximannia*** E.H.Roalson & J.K.Boggan, nothogen. nov. – Hybrids have been produced among species that were formerly included in *Gloxinia* (Wiehler 1976a) but are now separated into the genera *Gloxinia* and *Seemannia* (Roalson et al. 2005). These include crosses between *Gloxinia perennis* and *Seemannia sylvatica* and *S. gymnostoma*. *Gloxinia* (sensu Roalson et al. 2005b) and *Seemannia* are closely related, and hybrids between these two genera are fertile. Under the rules of nomenclature, all plants derived from crosses between these genera, including backcrosses to the parental genera, should also be included in the nothogenus ×*Gloximannia*. Among these are 'Arion', 'Island Sunset', 'Medea', and 'Medusa'.

×***Gloxinantha*** R.E.Lee – Hybrids between *Gloxinia* and *Smithiantha* remain in this nothogenus; the only such hybrids known involve *G. perennis* as one parent. ×*Gloxinantha* 'Evlo' is the only currently known cultivar. No hybrids between *Smithiantha* and former members of *Gloxinia* now moved to other genera are known. No hybrids between *Smithiantha* and either *Gloxinia* (formerly *Koellikeria*) *erinoides* or *Gloxinia* (formerly *Anodiscus*) *xanthophylla* are known, but given the close relationship of these two species to *G. perennis*, such hybrids are to be expected and should be attempted by hybridizers. Any such hybrids would then be placed in ×*Gloxinantha*.

×***Gloxinopyle*** Wiehler (*Gloxinia* × *Monopyle*) – This nothogenus is unaffected by generic changes (the only known hybrid involved *G. perennis*); none are known in cultivation.

×*Gloxistema* sensu Turley = ×*Gloxinistema*.

×***Gloxinistema*** E.H.Roalson & J.K.Boggan, nothogen. nov. – The nothogenus ×*Gloxistema* was created for a cross between *Diastema racemiferum* and *Gloxinia racemosa*, which was named 'First Frost' (Turley 1992). Due to the rules of botanical nomenclature, the name ×*Gloxistema* must be reserved for hybrids between *Gloxinia* and *Diastema*. Because *Gloxinia racemosa* is now placed in the genus *Gloxiniopsis*, a new nothogeneric name is required. However, if *G. perennis, G. erinoides*, or *G. xanthophylla* were crossed with any species of *Diastema*, the name ×*Gloxistema* would still be available and applicable to them (although no such hybrids are yet known).

×***Heppiantha*** H.E.Moore – This is the correct name for hybrids between *Heppiella* and *Smithiantha*, although none are known in cultivation. The name ×*Smitheppiella* (Wiehler 1976b; Dates 1986) is superfluous.

×*Heppigloxinia* sensu Wiehler = ×*Heppimannia*.

×***Heppimannia*** E.H.Roalson & J.K.Boggan, nothogen. nov. – *Heppiella viscida* has been hybridized with *Gloxinia nematanthodes* (Wiehler 1976b; Dates 1986), but with the recent transfer of *G. nematanthodes* back to *Seemannia*, a new nothogeneric combination is necessary for plants previously known as ×*Heppigloxinia*. ×*Heppigloxinia* remains an available nothogenus should any new crosses be made between *Heppiella* and any species now in *Gloxinia* (*G. perennis, G. erinoides*, or *G. xanthophylla*). The parentage of ×*Heppigloxinia* 'Mauve Attraction' is unknown but this cultivar may belong to ×*Heppimannia*.

×***Heppimenes*** Batcheller (*Heppiella* × *Achimenes*) – This nothogenus is unaffected by recent generic change. 'Purple Queen' and 'Tezli' may still be in cultivation.

×*Koellikohleria* Wiehler = ×*Glokohleria* Wiehler.

×***Kohleriella*** E.H.Roalson & J.K.Boggan, nothogen. nov. – *Gloxinella* (formerly *Gloxinia*) *lindeniana* has been hybridized previously with two *Kohleria* species (*K. amabilis* and *K. spicata*) and ×*Kohleriella* has been created to refer to these hybrids. These hybrids (as ×*Glokohleria*) were discussed by Wiehler (1976a) who cites a personal communication from Carl Clayberg. Wiehler suggested that these hybrids were weak and never bloomed, so it is unclear whether hybridizations between these genera would ever form plants worthy of propagation for trade.

×***Moussogloxinia*** Wiehler = ×*Moussomannia* E.H.Roalson & J.K. Boggan.

×***Moussokohleria*** Wiehler (*Moussonia* × *Kohleria*) – This nothogenus is unaffected by recent generic changes.

×***Moussomannia*** E.H.Roalson & J.K.Boggan, nothogen. nov. – The hybrids formed between *Gloxinia gymnostoma* and *Moussonia* (Wiehler 1976b; Dates 1986) previously referred to as ×*Moussogloxinia*, require a name change as *Gloxinia gymnostoma* has been moved back to *Seemannia* (Roalson et al. 2005b). ×*Moussogloxinia* remains an available name, although no hybrids are known.

×***Moussoniantha*** Wiehler (*Moussonia* × *Smithiantha*) – This name is unaffected by recent generic changes. 'Cornellian' may still be in limited cultivation.

×***Moussonophora*** Wiehler (*Moussonia* × *Solenophora*) – This name is unaffected by recent generic changes.

×***Niphiantha*** Worley (*Niphaea* × *Smithiantha*) – This name is unaffected by recent generic changes, and has not been seen in the trade (Dates 1986).

×***Niphadonia*** Worley (*Niphaea* × *Eucodonia*) – This name is unaffected by recent generic changes, and is not known to be in the trade.

×***Niphimenes*** Worley (*Niphaea* × *Achimenes*) – This hybrid is unaffected by recent generic changes. 'Lemonade' is still in cultivation.

×*Niphinaea* Worley = ×*Niphaphyllon* E.H.Roalson & J.K.Boggan.

×***Niphaphyllon*** E.H.Roalson & J.K.Boggan, nothogen. nov. – The recent intergeneric hybrid between *Niphaea oblonga* and *Phinaea divaricata* (×*Niphinaea*; Worley 2002) requires a name change as *Phinaea divaricata* will be moved to the genus *Amalophyllon* (Boggan et al., in prep.). This hybrid is not currently in cultivation.

×*Paleria* Wiehler = ×*Pearceria* E.H. Roalson & J.K. Boggan.

×***Pearceria*** E.H. Roalson & J.K. Boggan, nothogen. nov. – The name ×*Paleria*, resulting from a cross between *Parakohleria* and *Kohleria*, has become invalid now that all species of *Parakohleria* are now classified in the genus *Pearcea* (Kvist and Skog 1996). The only known ×*Pearceria* hybrid is a report from Jiri Haager of a cross of *Pearcea hypocyrtiflora* × a *Kohleria* cultivar. The close relationship between *Pearcea* and *Kohleria* (Roalson et al. 2005a) suggest that more such hybrids should be possible.

×***Phinastema*** D.Martens – Although several species of *Phinaea* are being transferred to *Amalophyllon* (Boggan et al., in prep.), the only hybrid so far between *Phinaea* and *Diastema* involves *P. albolineata*, which is the type species of *Phinaea* and thus remains in that genus. ×*Phinastema* 'California Dreaming' is the only known cultivar.

×***Seemakohleria*** E.H. Roalson & J.K. Boggan, nothogen. nov. – Species previously included in *Gloxinia* but now placed in *Seemannia* have been hybridized with various *Kohleria* species (Wiehler 1976b; Dates 1986). These hybrids have been known under the nothogenus name ×*Glokohleria* but with the transfer of their *Gloxinia* parent species to *Seemannia* (Roalson et al. 2005b), a new nothogeneric combination is required. Among the ×*Seemakohleria* cultivars are 'Ember Glow' and 'Scarlet Letter'.

×***Seemanniella*** E.H.Roalson & J.K.Boggan, nothogen. nov. – Hybrids between *Seemannia sylvatica* and *Gloxinella lindeniana* were considered *Gloxinia* hybrids when both species were included in that genus (Wiehler 1976a), but now require a new nothogeneric name. 'Turan' is the only known cultivar.

×*Smitheppiella* Wiehler = ×*Heppiantha* H.E.Moore.

×***Smithicodonia*** Wiehler (*Smithiantha* × *Eucodonia*) – This name is unaffected by recent generic changes. Numerous cultivars are in cultivation.

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Cut to the chase. The following list indicates the new names for cultivars whose generic status changes. As the precise parentage of some cultivars is unknown, this list is almost certainly incomplete.

Old name	New name
×*Glokeria* 'Dragon Song'	*Gloxinia* 'Dragon Song'
×*Glokohleria* 'Ember Glow'	×*Seemakohleria* 'Ember Glow'
×*Glokohleria* 'Scarlet Letter'	×*Seemakohleria* 'Scarlet Letter'
Gloxinia 'Arion'	×*Gloximannia* 'Arion'
Gloxinia 'Chic'	*Seemannia* 'Chic'
Gloxinia 'Circe'	×*Gloximannia* 'Circe'
Gloxinia 'Medea'	×*Gloximannia* 'Medea'
Gloxinia 'Medusa'	*Seemannia* 'Medusa'
Gloxinia 'Turan'	×*Seemanniella* 'Turan'
×*Gloxistema* 'First Frost'	×*Gloxinistema* 'First Frost'
×*Koellikohleria rosea*	×*Glokohleria rosea*
×*Koellikohleria* 'Goblin'	×*Glokohleria* 'Goblin'
×*Koellikohleria* 'Pink Heaven'	×*Glokohleria* 'Pink Heaven'

Some intergeneric hybrids whose names are still the same:

×*Achimenantha* 'Dutch Treat'
(photo by John Evans)

×*Niphimenes* 'Lemonade'
(photo by Patrick Worley)

×*Smithicodonia* 'Elizabeth'
(photo by Dale Martens)

Coming Events

August 26-27 — California — San Francisco Gesneriad Society flower show and sale at the San Francisco County Fair Building, 9th Avenue and Lincoln Way, San Francisco. Sale Saturday 10:00 am – 3:30 pm; show Saturday noon – 3:30 pm; Sunday show and sale 10:00 am – 3:30 pm. Contact Katherine Henwood <oakenhead@att.net>.

September 9 — Pennsylvania — Pittsburgh Violet and Gesneriad Society show and sale at the Galleria, 1500 Washington Road, Mt. Lebanon, Pittsburgh. Saturday 10:00 am – 8:00 pm in the lower lobby. Contact Georgene Albrecht <georgena@verizon.net> (724-693-8666).

September 23-24 — Massachusetts — Annual Combined Plant Societies' Show and Sale at the Tower Hill Botanic Garden, 11 French Dr., Boylston. Saturday noon – 5:00 pm; Sunday 10:00 am – 5:00 pm. Participating will be the New England Chapter of The Gesneriad Society and the Buxton Branch of the American Begonia Society. Admission: $8 adults; $5 seniors and youths (6-18). Contact Dee Stewart (978-897-6822) <dee.stewart@110.net>.

September 30 – October 1 — Missouri — Heart of America Gesneriad Society annual judged flower show and plant sale "Star Spangled Gesneriads" at Loose Park Garden Center Building, 5200 Pennsylvania Ave., Kansas City. Saturday and Sunday 10:00 am – 3:00 pm. Contact Doris Carson <doriscarson@cableone.net> or Susan Grose (913-381-7889).

October 1 — New Jersey — Frelinghuysen Arboretum Gesneriad Society annual show and plant sale at the Frelinghuysen Arboretum in Morristown. Sunday 11:00 am – 4:00 pm. Free admission and parking; handicapped accessible. Contact Jeanne Katzenstein <jkatzenste@aol.com> (973-627-2755).

Comments on Recently Described *Nematanthus*

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Conservatoire et Jardin Botaniques de la Ville de Genève, Switzerland

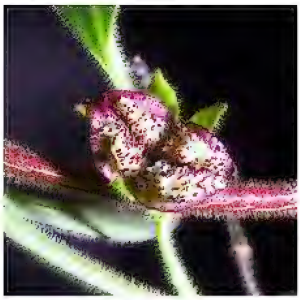
As a follow-up to my 2003 article in THE GLOXINIAN [53 (3): 34-41] on how I got involved with *Nematanthus* and other Brazilian Gesneriaceae more than twenty years ago, I am pleased to discuss here some recently described species. Let's start with what I called "genus indet. Santa Teresa" by the time it was introduced to Gesneriaceae growers in the early 1990's. The name refers to a small town in the Brazilian state of Espirito Santo (some 600 km/400 mi north of Rio de Janeiro) where the plant was originally collected. The process of naming this species is a long story and here are some of the highlights.

At the end of my first collecting trip in Brazil in 1983, I was given a cutting of a plant supposedly belonging to Gesneriaceae. It had been collected by a frog specialist in Santa Teresa and I was told that it grew as an epiphyte. This plant was introduced in the Geneva greenhouses and produced some large white and quite fragrant flowers, unlike any other known Gesneriaceae in southeastern Brazil. The rather large and fleshy leaves and adventitious roots suggested a placement in the tribe Episcieae. Within the Brazilian coastal rain forest, epiphytic members of this tribe are *Codonanthe, Columnea* (*Dalbergaria*), *Drymonia* and *Nematanthus*. The new plant did not seem to match any of these genera. For some time I wondered if I had discovered a new genus in the family. In 1987, at the end of my eighteen-month post-doc stay in southern Bahia, I drove all along the coast to São Paulo, accompanied by Mauro Peixoto. We stopped for a few days in Espirito Santo and were lucky enough to find the same plant, thriving in a humid forest near Santa Teresa. More cuttings were collected for growing in Mauro's greenhouse. While visiting Brazilian herbaria around this same time, I had identified a few other collections of the same plant coming from nearby localities in Espirito Santo and also from southern Bahia which indicated that this species has a rather wide distribution. Later in the 1990's, I received pictures from a colleague who collected it in the state of Pernambuco. This information established that this species occurs over one thousand kilometers/600 miles along the coastal rain forest in Brazil.

During the same 1987 trip, Mauro and I found a second large white-flowered epiphytic plant in a small patch of remnant rain forest not far from Domingos Martins, another small town in Espirito Santo. The leaf shape, hair covering and vinaceous dots all over the corolla throat and inner lobes were clearly different from the Santa Teresa material.

Also in the same area, we spotted another sterile epiphytic Gesneriaceae on a fallen tree trunk and took cuttings back to Mauro's place. Later on, this plant also produced large white flowers quite similar in corolla morphology to the Santa Teresa plant. After years of growing and observing details of habit and flowering behavior, Mauro told me that the two plants were different species. For some time I disagreed with him until close examination of several specimens from the local herbarium in Santa Teresa proved that I was wrong. The two species, although partially sharing the same geographic

Nematanthus albus
(former sp. 'Santa Teresa')
habit and fruit



Nematanthus wiehleri

Nematanthus punctatus
flower and habit

area, could be segregated based on size and shape of the calyx lobes. I now faced the problem of accommodating three species in the proper genus.

In the following years, Mauro grew, propagated, made some experimental crosses and obtained hybrids with some typical *Nematanthus*. He also observed that the fruit produced by these three species was a fleshy capsule which opened and exposed a mass of dark seed, matching the definition of a display capsule. At this point, I started to consider that the large white-flowered species could belong to the genus *Nematanthus* in an enlarged definition, including flowers adapted to pollination by large bees, besides the typical hummingbird flowers characterized by their narrowed corolla tubes and vivid colors. In order to test this hypothesis, I looked for other characters, like chromosome number, as previous classifications had established that within tribe Episcieae, *Codonanthe* and *Nematanthus* have only 8 chromosomes per set (1 n), in contrast to the 9 chromosomes found in the other genera. It took some time to obtain these results, but with the help of my colleague Michael Kiehn in Vienna (Austria), a number of 8 chromosomes (1n) was confirmed. Then I had to decide whether the new species were more related to *Codonanthe* or *Nematanthus*. The techniques relying on analyses of DNA sequences are powerful tools to address this kind of question and became easily accessible in the 1990's. Again, through the help of colleagues in Geneva and Kew Gardens (London) who analyzed all the available species of both genera, I obtained good evidence that the three white-flowered species were best placed in the genus *Nematanthus*.

In the meantime new trips to Brazil, in collaboration with local young botanists, had resulted in the discoveries of two other species with red-orange flowers typical for the genus *Nematanthus*. One was restricted to some forest patches in Espirito Santo. The other one was found in the state of Rio de Janeiro in the locality Rio das Pedras not very far from the miniature Sinningia also occurring there – see Mauro's 2003 story in THE GLOXINIAN [53 (2): 35-37], but later was observed again by Mauro near Nova Friburgo. After putting all the information together with the benefit of nice line drawings done by three different illustrators, I was able to add five new species to the 26 previously described, including the names of collaborators who contributed useful information or participated in their discovery. See abstract at <http://apt.allenpress.com/aptonline/?request=get-abstract&issn=0361-185X&volume=025&issue=02&page=0210>.

The first species identified in the group bearing large white flowers received the name of *N. albus*; the second species with dots all over the throat and inner lobes was recognized as *N. punctatus*; and finally the third one was called *N. wiehleri*. This was a way of honoring Dr. Hans Wiehler who had been so important to me since I started my studies of the Gesneriaceae family. I was also informed that during a field trip he made to Brazil with a group of members of the Gesneriad Research Foundation, he had observed this striking species in the region of Carangola, Minas Gerais.

The other two species were designated by the names *N. kautskyi* (in honor of Roberto A. Kautsky, a plant collector and grower living in Domingos Martins, to whom *Sinningia kautskyi* was also dedicated) and *N. pycnophyllus* (because of the striking leaves appearing all clustered at the stem apex). At this stage, *Nematanthus* had to be morphologically redefined to include, besides the colorful flowers attractive to hummingbirds, the large white flowers adapted to pollination by bumblebees and other kinds of large bees. Flower morphology reflects quick diversification that occurred in

Nematanthus kautskyii
habit (left) and
flower (below)

Nematanthus pycnophyllus

tropical environments where many kinds of bees, butterflies, moths, hummingbirds or bats are involved in the pollination processes. This kind of evolutionary history is now well proven for several Gesneriaceae genera as well as in other plant families.

To complete my work, I thought it would be useful to add a new key to the genus and I included it to finalize the manuscript that I had had sitting on my desk for many years. I started looking for a journal with an appropriate audience for this work. I was informed that after the death of Dr. Wiehler, his important collections were donated to Selby Botanical Gardens in Sarasota, Florida, and they had decided to establish a Gesneriad Research Center there in order to encourage studies in the Gesneriaceae family. The journal *Selbyana* was, therefore, an appropriate place for submitting my paper. It was a pleasant surprise to find out last December, when the paper was published [*Selbyana* 25 (2): 210-224. 2005], that it was part of a special issue dedicated to Gesneriaceae.

Regarding cultivation of these new species, they do not differ from most of the other congeners. *N. albus* is by far the most floriferous and easily grown. It also self pollinates and produces fruit which has certainly contributed to its ability to colonize a vast area in Brazil. *N. punctatus* and *N. wiehleri* have similar cultural requirements as they are found in the same areas in Brazil. Nevertheless, fruits are not produced without manual pollination which may explain why these species are in very limited cultivation so far. Both are also quite rare in Brazil and restricted to a small area. The other two species, *N. kautskyi* and *N. pycnophyllus*, are not very floriferous. *N. kautskyi* shows some similarity in flower shape with *N. gregarius*, but the corolla looks like it has been laterally compressed just below the swollen part. The calyx lobes and fruit are also different in shape, color and texture, and the leaf blades are larger and the internodes usually much longer. Fruit is difficult to produce and so far no seed is available. *N. pycnophyllus* looks at first glance like *N. fissus*, but the leaves are nearly sessile and are very crowded and imbricate at the shoot apex, and the corollas are of a dull brown-orange, never bright red nor red with yellow stripes. The striking character of this species is its globular, bright orange fleshy capsule. Some seed should soon be available.

At this time, hybrids produced with these new species are restricted to what Mauro obtained a few years ago. It seems that *N. punctatus* crosses quite easily with other *Nematanthus*, such as *N. fissus, N. fluminensis, N. jolyanus* and *N. striatus*. Pictures of some of these hybrids can be found at <http://mpeixoto.sites.uol.com.br/gesneriads/hibrido/fotohibrido.html>. As *N. albus* is rather well distributed among gesneriad growers, it would be interesting to test more of its crossing ability. This could tell us more about relationships within *Nematanthus*, a genus that after 25 years of study may still reveal other surprises!

Nematanthus hybrid of
N. fluminensis × *N. punctatus*
created by Mauro Peixoto

All photos by Alain Chautems

Board Retreat

The Gesneriad Society Board of Directors held its 2006 Retreat at the Atlanta Botanical Garden in March. Board members discussed ways to improve our Society, provide additional benefits to our members, and better publicize the joys of growing gesneriads.

Our sincere thanks go to the Atlanta Botanical Garden staff for hosting us at the gardens by providing rooms for our meetings as well as guided tours of the public display areas and the extensive gesneriad collections maintained in the back greenhouses. Be sure to visit their beautiful gardens and conservatory when you are in the Atlanta area.

Mike Wenzel, Becky Brinkman, Ron Determann,
Candice Eckard from ABG

Candice Eckard, curator of the gesneriad collection, with
Board members enjoying a visit to the greenhouses

A spectacular plant of *Paradrymonia hypocyrta*
growing in the ABG greenhouse

(Color photos courtesy of Julie Mavity-Hudson;
black and white photos courtesy of Paul Susi)

Fruit of *Neomortonia* and *Codonanthe* species in the ABG greenhouse

The Gesneriad Society gratefully acknowledges the donation of seed from
many varieties of gesneriads being grown at the Atlanta Botanical Garden

Gesneriad Slide Programs

Thanks to ever-improving technologies, we've made a change that we believe will be more convenient for members of The Gesneriad Society. Programs on CD's in PowerPoint format are now available through Publications rather than the program library. Since the CD order will be a purchase rather than a rental, you will no longer have to return the program after viewing it. See the publications ad on page 33 for more details.

Programs currently available in 35 mm slide format are as follows:

- Introduction to Gesneriads (56 slides)
- Portland OR: Convention 2005 Flower Show (72 slides)
- Long Island: Convention 2004 Flower Show (80 slides)
- Sacramento: Convention 2003 Flower Show (78 slides)
- Morristown NJ: Convention 2002 Flower Show (80 slides)
- Achimenes (59 slides)
- Alpine and Cool-Growing Gesneriads (78 slides)
- Chiritas (60 slides)
- The Companion Genera: *Nematanthus* and *Codonanthe* (77 slides)
- Kohlerias (72 slides)
- Sinningias (80 slides)
- *Streptocarpus* Species (75 slides)
- *Streptocarpus* Hybrids (79 slides

Since we have only one copy of the 35 mm programs available for circulation, please contact me for information on the dates the program you are interested in is available. As always, I'll be happy to answer questions about any of the programs.

Programs can be reserved by mail to Dee Stewart, 1 No Name Road, Stow MA 01775-1604 or email to dee.stewart@110.net. Specify the program to be reserved and the date the program is required. Since new programs are very popular, it is helpful if you provide as much lead time as possible, provide alternate dates, or alternate programs that would be acceptable. Please specify the address the program is to be mailed to and a contact phone number. Program rental of $20.00 US payable to The Gesneriad Society must be received before the program can be shipped. Your request will be promptly acknowledged and programs will be shipped to arrive at least one week in advance of your reserved date. Slide programs are shipped pre-loaded in a Kodak-compatible carousel. Programs must be returned within 5 days of your reservation date via Priority Mail with delivery confirmation in the U.S. or the equivalent postal category from outside the U.S.

Additions to the Hybrids Seed List in the 2Q06 Issue of GESNERIADS:

- *Sinningia* (*cardinalis* 'Skydiver' × *iarae*) × self
- *Sinningia* (*warmingii* × *curtiflora*) F2
- *Sinningia eumorpha* × *Paliavana gracilis* (few hybrids)
- *Sinningia reitzii* × *Paliavana prasinata*
- *Sinningia eumorpha* × *Paliavana prasinata*
- *Sinningia* (*eumorpha* × *mauroana*) F2
- *Sinningia reitzii* × *Paliavana tenuiflora*
- *Sinningia* (*glazioviana* × *iarae*) F2
- *Sinningia brasiliensis* × *magnifica*
- *Sinningia cardinalis* × *glazioviana*

Send orders for hybrid seed on the above list to:

Gussie Farrice
121 Nelson Avenue
Staten Island, NY 10308

Seed Packets — $2.00 each

Please

- Make checks payable to the The Gesneriad Society in U.S. funds
- To pay by credit card, send your credit card number, expiration date, and signature, and indicate if the card is Mastercard or Visa ($6.00 minimum)
- Provide a self-addressed, stamped envelope (non-U.S. orders may include International Postal Coupons or have the postage added to their credit card bill)
- List alternate choices
- Include your membership number (first number on your mailing label)

Note

- There is a limit of one seed packet of a single variety per order
- There is a limit of 25 seed packets per order
- There is a household limit of 50 seed packets per calendar year

Correction

In the last issue of GESNERIADS (Volume 56, No. 2) on page 48, the top right picture caption should read *Nautilocalyx coccineus* (not *Nautilocalyx rupicola* as printed).

CHAPTER PRESIDENTS

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Go to www.gesneriadsociety.org for chapter email contacts.

FOR YOUR INFORMATION

Membership Cards: The address label on the back cover of GESNERIADS is your membership card.

Bylaws: Copies of The Gesneriad Society Bylaws are available to all members by writing to Peter Shalit, 1122 E. Pike St., PMB 637, Seattle, WA 98122-3916.

Chapters: Report changes of chapter presidents to the Chapters and Affiliates Chair and the Editor.

Contributions and Insurance

The Gesneriad Society, Inc. is a tax-exempt organization with an IRS Section 501(c) (3) tax status for donations. Contact The Gesneriad Society Treasurer at <hmbort@olypen.com> or send your donations to:

Helen Bortvedt, 20 Beeson Road, P.O. Box 2584, Sequim, WA 98382-8870

Membership and Changes of Address

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

Changes of Address — Send changes of address to the Membership Secretary <gesneriad societymembership@gmail.com> 90 days prior to moving to avoid missing an issue. The Society is not responsible for replacing issues missed because of late notification of address changes. Back issues may be ordered from The Gesneriad Society Publications.

Renewals — Send dues to the Membership Secretary. A Renewal Notice is sent two months prior to the expiration date of your membership. (The expiration date is printed on your mailing label/membership card on the back cover of GESNERIADS.) Please remit your dues prior to the expiration date to avoid missing an issue as we are not responsible for replacing issues missed because of late payment of dues. Back issues may be ordered from Publications.

Application for Membership — *The Gesneriad Society, Inc.*

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.

☐ **New Member** Date _____

☐ **Renewal** Membership # _____

Name _____
FAMILY NAME GIVEN NAME MIDDLE INITIAL

Address _____
STREET

_____
CITY STATE ZIP CODE COUNTRY

Email _____ Telephone _____

(Rates in US$)	Mailing in US 1 year	Mailing in US 3 years	Mailing outside US 1 year	Mailing outside US 3 years
☐ **Individual**	$25	$70	$30	$85
☐ **Family**	$26	$73	$31	$88
☐ **Sustaining** (minimum)	$35	$105	$40	$120
☐ **Research** (minimum)	$50	$150	$55	$165
☐ **Life**	Mailing in US $375		Mailing outside US $450	

GESNERIADS is mailed first-class to members outside the US and bulk-rate within the US.

I wish to make an additional tax-deductible contribution of $ _____

☐ Frances Batcheller Endowment Fund ☐ Elvin McDonald Research Endowment Fund

☐ Color Fund for GESNERIADS ☐ Nellie D. Sleeth Scholarship Endowment Fund

☐ In Honor ☐ Memory of: _____

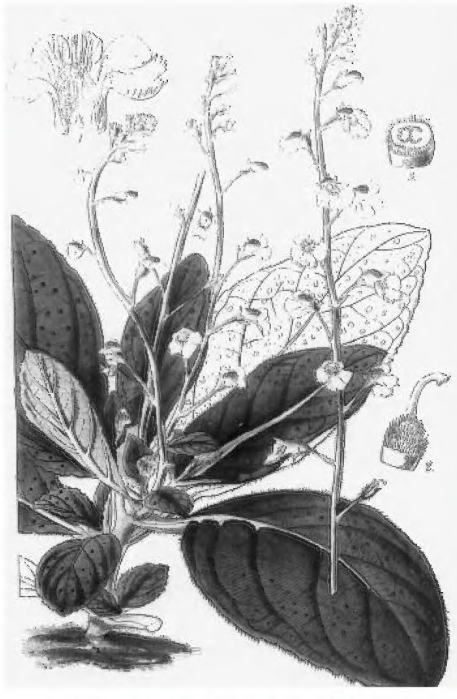
Please make checks or money orders payable, in US$ on a US bank to: **The Gesneriad Society**

Or, charge my ☐ **VISA**, or ☐ **MasterCard** # _____

Exp. Date_____ Signature _____ Amount_____

Mail to: **The Gesneriad Society Membership Secretary, Bob Clark, 1122 East Pike St., PMB 637, Seattle, WA 98122-3916 USA**

For application online: www.gesneriadsociety.org



Gloxinia (*Koellikeria*) *erinoides*
(illustrated as *Achimenes argyrostigma*
in Curtis' Botanical Magazine in 1840)

GESNERIADS
1122 East Pike Street, PMB 637
Seattle, WA 98122-3916 USA

Return Service Requested

The Gesneriad Society, Inc.

MEMBERSHIP CARD