

the

GLOXINIAN

The Journal for Gesneriad Growers

Vol. 50, No. 3

Third Quarter 2000



Didymocarpus citrinus

American Gloxinia and Gesneriad Society, Inc.

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

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COVER

Didymocarpus citrinus
photographed in Malaysia
by Dr. Anton Weber

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Evans and Jeanne Katzenstein for their exploration in search of gesneriads

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President's Message

Jon Dixon <president@aggs.org>
55 Tum Suden Way, Woodside, CA 94062

We live in an exciting time for gesneriad growers—exciting and frustrating. But it is the kind of frustration that we growers and collectors love. It is the frustration of choosing which of the many exciting new species and cultivars that we want to grow. With each issue of THE GLOXINIAN we learn of the discovery and introduction to cultivation of more new and exciting species. There just isn't time or space for anyone to grow even a significant percentage of the new plants. For more than ten years we have been treated to the new Brazilian species of *Sinningia* and *Nematanthus*, brought in largely due to the incredible diligence of Alain Chautems and Mauro Peixoto. Hans Wiehler and the GRF continue to discover a wide array of new plants from Ecuador and other sites in the New World. From Africa, Martin Kunhardt and his father before him have brought in significant numbers of new species of *Streptocarpus*. The work of just one of these great individuals would make this the most exciting period of gesneriad cultivation.

One arena I have not mentioned is now becoming one of the most exciting new regions for gesneriad introduction—Asia. While Alain and Mauro have brought the number of *Sinningia* species in cultivation to over ninety percent (with several new and significant species found this year alone), the vast majority of Asian gesneriads remain only in the wilds. For example, Larry Skog, in his 1996 presentation at the AGGS Convention on Chinese gesneriads mentioned that there were approximately 450 described species. Yet, less than ten percent are available to us. We look forward to this incredible new pool of plants with great anticipation. But, China is just one region where Asian gesneriads are found. Add to that the regions of India, the Himalayas, Indo-China, Indonesia, Malaysia, the Philippines, and New Guinea, and we see that the potential is beyond comprehension.

Will the new species be as interesting to the hobbyist, cultivator and hybridizer as they are to the taxonomist and botanist? In other plant families the answer invariably is no. I have too often grown new plants such as perennials, succulents, orchids or other tropical plants only to discover that they are less interesting and less showy than the older plants. But with gesneriads, we find that the new discoveries or new introductions of known species are very beautiful, choice, and popular. *Chirita tamiana* is a perfect example. Only in cultivation for about two years, it is one of the most popular and talked about new species. A miniature plant, fast and easy from seed, with an abundance of cute flowers, it soon became widely grown. Yet, as one species in a large genus where at least eighty species are of the popular rosulate form, it is just one out of many, but a choice one, nonetheless. How could we be so lucky?

Jon

Coming Events

August 20–21 — California — Grow & Study Chapter annual judged show and sale at the Huntington Mall, Huntington Beach. Open during regular mall hours. Contact Dee Probert (714-548-4713).

September 16 — Massachusetts — New England Chapter AGGS and plant societies annual co-sponsored show and sale at University of Massachusetts Eastern Extension Center, 240 Beaver Street, Waltham. Saturday 9:00 am to 3:00 pm. Free admission; handicapped accessible. Contact Dee Stewart (978-897-6822) <DeeStewart@alum.mit.edu>.

September 23–24 — Pennsylvania — Pittsburgh Violet and Gesneriad Society exhibit and plant sale at Northland Public Library, 300 Cumberland Road, Pittsburgh. Saturday 10:00 am to 5:00 pm; Sunday 1:00 to 3:30 pm. Contact Georgene Albrecht <georgena@bellatlantic.net> or 724-693-8666.

September 29–October 1 — Missouri — Heart of America Gesneriad Society annual show and plant sale at Loose Park Garden Center, 5200 Pennsylvania Ave., Kansas City. Friday entries 8:30 am to 11:00 am; show and sale Saturday and Sunday 10:00 am to 2:00 pm. Contact Linda Golubski <golubski@kc.net> or Susan Grose at <SAGrose@aol.com>.

September 30–October 1 — Illinois — Glenview/North Shore African Violet Society display, sale and educational exhibit at the Chicago Botanic Garden, Glencoe. Saturday 9:00 am to 5:00 pm; Sunday 10:00 am to 4:00 pm. Parking \$7 for non-garden members. Contact Betty Hansen, 4425 W. Hollywood, Chicago, IL 60646.

October 1 — New Jersey — Frelinghuysen Arboretum Chapter annual show and plant sale at the Frelinghuysen Arboretum in Morristown. Sunday 10:00 am to 4:00 pm. Free admission and parking; handicapped accessible. Contact Jeanne Katzenstein (973-627-2755) <jkatzenste@aol.com>.

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Seed Fund

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15832 Winter Park Drive, Macomb, MI 48044-3881

This Seed Fund is provided as a benefit for the personal and educational use of AGGS members *just like you*. The seeds are produced and donated by a very few generous and supportive individuals in our society *just like you*. There is no "Gesneriad Seed Company" magically producing the seed that appears on this list. When something disappears from the list, it won't be seen again... unless a kind and considerate individual contributes more—a member *just like you*. Did you know that less than one member in ten sends seed to our Seed Fund?

Limited listings are indicated by a black dot next to the name. These selections are in short supply. The packets may be smaller than usual, and they are limited to one per person, per quarter. Based on supply and demand, other selections may become limited in between published updates.

These are the generous and supportive folks that have contributed to our Seed Fund most recently: Frances Batcheller, Marlene Beam, Carol Ann Bonner, Mary Bozoian, Tshuh Yang Chen, Norma Chenkin, Maryjane Evans, Richard Holzman, Michael Ludwig, Michael Medved, Marilyn Mellander, Pat Olson, Peter Shalit, Leong Tuck-Lock, Maureen Wilson, and Linda Zillich.

Seed Packets — \$1.50 each

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- Make checks payable to the AGGS Seed Fund 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)
- Remember to enclose a self-addressed, stamped envelope
- List alternate choices
- Include your membership number (first number on your mailing label)

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admirabilis (B)
chettoana (B)
dulcis (B)
erecta (B)
erecta 'Tiny Red' (F, L)
grandiflora 'Robert Dressler' (B)
longiflora (B)
longiflora alba (B)
skinneri W1897 (L)
warszewicziana USBRG88-039 (B)
'Carmencita' (L)
Park's Breeder's Mix (B, L)
hybrid mix (B, L)
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buxifolius 913296
garrettii
• *gracilis*
hildebrandii USBRG94-214
hosseusii

longiflorus
maculatus
micranthus
mimetes
parvifolius
parvifolius 'Bali Beauty'
pulcher
sikkimensis
sp. (Vietnam) 921622
sp. MSBG87-162
sp. (yellow) (Philippines)
hybrid, lg orange/red
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bolivianus USBRG95-140 (M)
cristatus
dodsonii (yellow) GRF98184 (M)
panamensis GRF9517 (M)
tetragonoides GRF98153
sp. aff. *schultzii* GRF97103
sp. aff. *panamensis* GRF9781
(orange)

sp. GRF9776 (yellow)
 sp. GRF9788 (pinkish/yellow above)
 sp. GRF97153 (peach/orange)
 sp. GRF97166
 sp. GRF98151 (yellow)
 sp. USBRG 98-030
 sp. nov. (*plicatissimus* ined.)
 (salmon calyx) GRF9521
 sp. nov. (*plicatissimus* ined.)
 (green calyx) GRF9556
 sp. nov. (*prunifer* ined.) GRF98174

Alsobia (B)

dianthiflora
dianthiflora 'Costa Rica'
punctata
punctata USBRG77-103

Anodiscus

xanthophyllus (M)
xanthophyllus (Ecuador) GRF97109

Besleria

barbata USBRG98-052
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princeps GRF9479 (LM)
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 sp. GRF9558 (LM)
 sp. GRF9783 (orange w/yellow base)
 sp. GRF97108 (orange)
 sp. GRF97141 (orange)
 sp. GRF9853 (yellow)
 sp. GRF98139 (orange)

Boea (F, R)

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musciola

Capanea

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- caliginosa* (LM)
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sanguinea 'Orange King' GRF9492
sp. GRF93191
sp. GRF97160
• sp. GRF9852

Diastema (D, F, P)

latiflorum GRF9668 (green leaf)
latiflorum GRF9669A (white veins)
racemiferum
vexans

Drymonia

affinis GRF98109
alloplectoides USBRG96-347 (B)
brochidodroma USBRG95-156 (B)
coccinea GRF9851 (B)
coccinea GRF9873
coccinea GRF98150
conchocalyx (B)
conchocalyx 'Silver Lance' × self (M)
doratostyla GRF9674 (B)
ecuadorensis 'Red Elegance' (LM)
hoppii GRF98103
macrophylla (M)
mortoniana (L)
pulchra GRF9889 (L)
pulchra GRF98113
rhodoloma (B)
semicordata G2191
serrulata (B)
serrulata GRF9752
strigosa (B)
strigosa GRF1912
urceolata GRF93146 (LM)
urceolata GRF97124 (red)
urceolata GRF98154 (red w/yellow)
sp. nov. (*umecta* ined.) (B)

Episca (H, L, B, F)

xantha
cupreata hybrids mix
hybrid mix

Epithema

saxatile (F, L)

Eucodonia (D, F, P)

andrieuxii
• *verticillata*
verticillata 'Ehrenberg'
hybrid mix

Fieldia

• *australis*

Gasteranthus (H)

corallinus GRF95120 (LM)
crispus USBRG98-033
giganteus
lateralis
wendlandianus GRF97154 (LM)
wendlandianus GRF97163
wendlandianus GRF98166
(w/red spots)

Gesneria (H, F, L)

christii
• *citrina* WEK96154
cuneifolia WEK96151
cuneifolia WEK96152
cuneifolia WEK96155
cuneifolia WEK96157
cuneifolia WEK96158
cuneifolia 'Esperanza'
cuneifolia 'Quebradillas'
cuneifolia 'Tom Talpey'
pedunculosa WEK96153 (S,T)
pumila
reticulata
• *reticulata* WEK96164
reticulata 'El Yunque'
ventricosa (M)
viridiflora ssp. *sintensisii*
WEK96162 (T)
'Flashdance'

Gloxinia (D)

gymnostoma (LM)
lindeniana (F, L)
nematanthodes (F, L)
perennis (LM)
perennis 'Insignis' (L)
purpurascens GRF9670 (F,L)
racemosa (L)
sylvatica (F, L)
sylvatica GRF9943 (Brazil)
sylvatica USBRG94-002 (Bolivia)

Haberlea (A, R)

ferdinandi-coburgii
rhodopensis

Hemiboea (D)

subcapitata (L)

Heppiella (D)

ulmifolia GRF95141 (L)
ulmifolia GRF98172

Jancaea

• *heldreichii* (A, R)

Koellikeria (D, F, P)

erinoides
erinoides 'Red Satin'

Kohleria (D)

hirsuta (LM)
hirsuta USBRG96-163 (F, L)
hondensis (LM)
rugata USBRG95-010 (LM)
spicata (M)
eriantha × 'Bermuda Red' (L)
hybrid mix

- Lysionotus* (LM)
pauciflorus var. *pauciflorus*
 species
- Monophyllaea** (H, LM)
elongata
horsfieldii
- Monopyle**
 • *flava* USBRG96-149 (F, LM)
macrocarpa GRF98117 (F, LM)
macrocarpa GRF94123
- Moussonia**
deppeana (M)
elegans (M)
elegans GRF9407
septentrionalis G1201 (F,L)
- Napeanthus** (H)
costaricensis (F, P)
jelskii USBRG94-511 (F, P)
 • *primulifolius* GRF9941 (P)
robustus GRF9765 (L)
- Nautilocalyx**
adenosiphon (B, L)
colonensis (LM)
melittifolius (F, LM)
- Nematanthus**
australis (B)
brasiliensis (M)
corticola (B)
crassifolius (B)
fissus (L)
fissus GRF9938
formix (B)
fritschii (B)
gregarius (B)
jolyanus (Sao Paulo) (B)
 cf. *lanceolatus* AC2010
maculatus (B)
serpens (B)
strigillosus AC1434 (B)
tessmannii GRF9904 (red calyx) (B)
tessmannii GRF9912 (red calyx)
wettsteinii (B)
 sp. GRF3555 (B)
 sp. 'Santa Teresa' (B)
 sp. aff. 'Santa Teresa' (lgr fls)
 USBRG89-019
 sp. MP50
 • sp. nov. (*punctatus* ined.)
- Neomortonia** (B)
nummularia
- Opithandra** (A, R)
primuloides
- Ornithoboea**
wildeana (LM)
- Paliavana** (S, T)
prasinata
prasinata GRF732
prasinata GRF91126
 • *prasinata* × *S. macropoda* MP944
- *prasinata* × *S. reitzii* MP949
tenuiflora
werdermannii AC2310
- Paradrymonia**
cilosa (L)
decurrens (L)
flava (F, L)
fuquaiana USBRG94-220
lurida (L)
- Parakohleria**
sprucei GRF95137
 sp. GRF9778 (red, yellow below)
 sp. GRF9780 (yellow)
 sp. GRF97126
 sp. GRF88105 (red) (L)
 sp. GRF98144 (rose pink)
- Pearcea**
abunda (L)
- Pentadenia**
angustata (B)
byrsina (B, L)
crassicaulis (B)
manabiana (B)
microsepala GRF1837 (B)
orientandina (LM)
rileyi GRF86243 (LM)
spathulata GRF9503 (LM)
strigosa GRF95154 (B)
strigosa GRF9777
zapotalana (B)
- Petrocosmea** (R)
duclouxii (F, P)
flaccida (F, P)
- Phinaea** (D, F, P)
albolineata
divaricata
ecuadorana GRF8852
multiflora
multiflora 'Tracery'
- Ramonda** (A, R)
myconi —
 white
 lavender
 purple
 pink
 clone G
myconi (upright rosette)
nathaliae
serbica
- Rhabdothamnus**
 • *solandri*
- Rhynchoglossum** (H, L)
gardneri
obliquum
- Rhytidophyllum** (G, H, S, T)
auriculatum
leucomallon
tomentosum
villosulum

Saintpaulia (F, R)

- *grandifolia*
- intermedia*
- ionantha*
- shumensis*
- *teitensis*

hybrid mix

Sinningia (D)

- aggregata* (M)
- aggregata* AC1461
- aggregata* 'Pendulina' (B, L)
- aff. *aggregata* (yellow) (M)
- aghsensis* (T)
- allagophylla* (MT)
- allagophylla* GRF9922
- allagophylla* GRF9929
- allagophylla* GRF9968
- brasiliensis* (M)
- brasiliensis* 'Verde'
- brasiliensis* AC1314
- bulbosa* (T)
- calcaria* MP891 (F, L)
- canescens* (F, L)
- carangolensis* (M)
- cardinalis* (F, LM)
- cardinalis* (compact) (F, L)
- cardinalis* (dark calyx) (LM)
- cardinalis* 'Innocent'
- cardinalis* (pink)
- conspicua* (F, L)
- conspicua* GRF9942 (fragrant selection)
- cooperi* (LM)
- cooperi* AC1522
- curtiflora* (T)
- curtiflora* GRF9927
- douglasii* GRF91188 (LM)
- douglasii* (pink form) (M)
- elator* AC1409 (M)
- elator* GRF9963
- eumorpha* (lavender) (F, L)
- eumorpha* (pink)
- eumorpha* (white)
- glazioviana* (L)
- harleyi* MP482 (F, L)
- hatschbachii* (L)
- *hirsuta* (F, L)
- iarae* (F, L)
- insularis* (LM)
- leopoldii* (F, L)
- leucotricha* (F, L)
- lindleyi* AC1501 (L)
- lineata* (LM)
- lineata* (highly spotted)
- macropoda* (M)
- *macropoda* (dwarf form) (L)
- macrorrhiza* (T)
- macrostachya* (LM)
- macrostachya* MP262
- magnifica* GRF91121 (pink) (LM)
- magnifica* MP627 (pink)

- magnifica* GRF91134 (red)
- mauroana* (LM)
- mauroana* GRF9964
- micans* MP892 (LM)
- nivalis* AC1460 (L)
- nivalis* GRF9923
- piresiana* (L)
- pusilla* (F, P)
- pusilla* 'White Sprite' (F, P)
- reitzii* (M)
- reitzii* GRF9914 (magenta)
- rupicola* AC1511 (F, L)
- sceptrum* (T)
- sceptrum* AC2406 (T)
- *schiffneri* (LM)
- *schiffneri* GRF91163 (red reverse)
- sellovii* (MT)
- sellovii* GRF9919
- sellovii* 'Bolivia' USBRG96-003
- sellovii* 'Purple Rain'
- speciosa* 'Cabo Frio' MP178 (F, L)
- speciosa* 'Lavender Queen'
- speciosa* 'Regina'
- speciosa* AC1652
- speciosa* (Chiltern Seed Co)
- speciosa* AC1503
- sulcata* (LM)
- tuberosa* (F, L)
- tubiflora* (S, MT)
- villosa* (F, L)
- warmingii* (T)
- warmingii* GRF9921
- sp. aff. *warmingii* from Ilhabela MP631
- sp. 'Lanata' MP622 (L)
- sp. 'Waechter' (LM)
- cardinalis* 'Innocent' × *iarae* (LM)
- glazioviana* × *leopoldii* F2 (LM)
- iarae* × 'Bewitched' (F, L)
- speciosa* AC1503 × *speciosa* 'Regina' (R)
- eumorpha* hybrids mix (F, R)
- "Hummingbird Mix"
- 'Anne Crowley' (F, L)
- 'Apricot Bouquet' × self (LM)
- 'April Starr' × self (F, P)
- 'Beauty' × self (F, P)
- 'Bewitched' × self (F, L)
- 'Cheryl M.' × self (F, P)
- 'Delta Fox' × self (F, P)
- 'Diego' (red) (F, L)
- 'Diego' (pink)
- 'Dollbaby' (F, P)
- 'Good Pink' × self (F, L)
- 'High Voltage' × self (F, P)
- 'Jubilee' × self (F, L)
- 'Krezdorn Yellow' × self (L)
- 'Krishna' × self (F, P)
- 'Laura' × self (F, P)
- 'Leo B.' × self (F, P)

- Little Imp' (F, P)
- 'Maiden's Blush' × self (F, P)
- 'Mother of Pearl' × self (F, P)
- 'Mothers Day' × self (F, L)
- 'Pale Beauty' × self (L)
- 'Pink Ice' (F, P)
- 'Pink Imp' (F, P)
- 'Pure Pink' × self (F, P)
- 'Purple Beauty' × self (F, P)
- 'Purple Crest' × self (F, P)
- 'Rosebells' × self (F, L)
- 'Ruby Red' × self (F, P)
- 'Scarlet Red' × self (F, P)
- 'Scarlet Sunset' (F, P)
- 'Silhouette' × self (F, P)
- 'Star Eyes' (F, P)
- 'Super Orange' (F, P)
- 'Super Red' × self (F, P)
- 'Tampa Bay Beauty' × self (L)
- 'Virgil' × self (LM)
- 'Whimsey' × self (F, P)
- 'Angora Love' × 'Margaret' (L)
- 'Cherry Chips' hybrids mix (F, P)
- 'Georgia Sunset' hybrids mix (F, P)
- hybrid miniature mix (F, P)
- pink hybrid miniature mix (F, P)

***Sinningia speciosa* hybrids (F, R)**

- blue mix
- mini lavender
 - pink
 - purple
 - rose
 - white
- orchid/purple mix
- pink mix
- pink/white mix
- purple w/spots
- red mix
- red w/spots
- white w/red spots
- 'California Minis' (L)
- Charles Lawn hybrid mix
- Double Brocade mix
- Early Giant mix
- hybrid mix
- blue slipper
- lavender slipper
- pink slipper
- purple slipper
- mixed slipper
- pink dwarf
- red and white dwarf
- Small's dwarf mix
- white dwarf slipper

***Smithiantha* (D)**

- aurantiaca* (F, L)
- canarina* GRF9105 (F, LM)
- lauri* GRF9117 (F, L)
- multiflora* GRF9121 (F, LM)
- multiflora* GRF9122 (F, LM)
- zebrina* GRF9104 (M)

- 'Abbey' × self (F, LM)
- 'Little One' (F, L)
- hybrid mix (F, L)

Streptocarpus

- baudertii* (F, R)
- bolusii* (U)
- buchananii* (B)
- caeruleus* (R)
- candidus* (F, R)
- candidus*/Ngome, Natal
- caulescens* (F, LM)
- compressus* (U)
- confusus* (U)
- confusus* ssp. *confusus* (U)
- cooksonii* (U)
- cooksonii* (dark purple)
- cooperi* (U)
- cyanandrus* (F, P)
- cyaneus* (blue) (R)
- cyaneus* (blue/long corolla)
- cyaneus* (blue/short corolla)
- cyaneus* (lilac)
- daviesii* (F, U)
- denticulatus* (U)
- dunnii* (U)
- eylesii* (U)
- fanniniae* (R)
- fasciatus* (R)
- fenestra-dei* (R)
- floribundus* (R)
- formosus* (R)
- formosus*/E. Cape, Transkei
- gardenii* (F, L)
- *gardenii*/Weza, S. Natal
- glandulosissimus* (B)
- goetzei* (U)
- grandis* (U)
- grandis* (blue form)
- haygarthii* (F, U)
- haygarthii*/Mkambati, Transkei
- holstii* (B, L)
- johannis* (F, R)
- johannis*/Komga, E. Cape
- sp. aff. *johannis* (F, R)
- kentaniensis* MBG2335-60 (R)
- kentaniensis* (N. Kei River)
- *kentaniensis* (S. Kei River)
- kirkii* (F, L)
- meyeri* (F, R)
- meyeri*/NE Cape Province
- michelemorei* (U)
- modestus* (R)
- molweniensis* (U)
- *molweniensis* subsp. *eschowicus*
- muscosus* (L)
- nobilis* (M)
- pallidiflorus* (F, LM)
- parviflorus* (R)
- parviflorus* (mauve)
- parviflorus* (white/mauve)
- pentherianus* (F, L)

- pole-evansii* (R)
polyanthus (F, L)
polyanthus subsp. *comptonii*
polyanthus subsp. *polyanthus*
polyanthus subsp. *polyanthus*/lg fl
polyanthus subsp. *polyanthus*/Valley of 1000 Hills, Natal
polyanthus subsp. *verecundus*
porphyrostachys (U)
primulifolius (F, R)
primulifolius (dark blue)
 Port St. John, Transkei
primulifolius /Mt. Sullivan, Transkei
primulifolius /Bullolo Rvr, Transkei
primulifolius /Valley of 1000 Hills
prolixus (F, U)
pumilus (F, P)
rexii (F, L, R)
rexii (blue)
 • *rexii* (blue) Transkei
rexii (white)
rexii (pale blue/long corolla)
rexii (white/blue mix)
rimicola (F, P)
roseoalbus (F, R)
saundersii (U)
saxorum (B)
silvaticus (R)
stomandrus (F, L)
thompsonii (B, L)
thysanotus (B, L)
trabeculatus (U)
vandeleurii (U)
variabilis (F, R)
wendlandii (U)
wilmsii (U)
 • *wilmsii*/Graskop
wilmsii/Long Tom Pass
 'Athena' × self (R)
 • 'Bethan' × self (R)
 'Blue Angel' (B)
 • 'Cape Beauties' (F, P)
 • 'Demeter' × self (R)
 • 'Falling Stars' × self (R)
- 'Georgette' × self (R)
 'Gloria' × self (R)
 'Karen' × self (R)
 'Kitten Face' × self (R)
 'Midnight Flame' × self (R)
 • 'Mini Pink Fu' × self (R)
 • 'Party Doll' × self (R)
 'Pegasus' × self (R)
 'Royal' (red) (R)
 'Royal' (white/pink stripes) (R)
 'Sandra' × self (R)
 'Strawberry Crush' × self (R)
 'Suzie' × self (R)
 'Thalia' × self (R)
 • 'Ulysses' × self (R)
 'Wild Grape' × self (R)
 'Black Panther' hybrid mix (R)
 • Martin Kunhardt hybrid mix (R)
 New Zealand hybrid mix (F, R)
rexii hybrids (F, R)
 Wiesmoor hybrids (F, R)
 hybrid mix (F, R)
 hybrid, lt blue/dk blue lines (R)
 hybrid, lg burgundy (R)
 hybrid, lg purple (R)
 hybrid, lg white (R)
streptocarpella hybrids (B)
- Titanotrichum***
oldhamii (propagules)
- Trichantha***
ambigua (B)
ambigua 'El Yunque' WEK96163
brenneri (LM)
kucyniakii GRF93166 (MT)
minutiflora GRF9552 (LM)
purpureovittata (B, L)
 sp. nov. (*molinae* ined.) GRF98159
- Vanhouttea*** (S, T)
calcarata GRF3026
lanata
- Mixed gesneriads**
- denotes LIMITED quantities

(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; not more than 6 inches tall.
(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.

GROW WITH US — JOIN A CHAPTER

Redefined, Revived and New Genera of South East Asian Gesneriaceae: Introduction

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In the last decades, the American and African Gesneriads have become well known to a broad public. Botanists, horticulturists and amateur plant growers have equally become fond of this fascinating plant group. Milestones in the scientific exploration of the New World Gesneriaceae include Hans Wiehler's "Synopsis of Neotropical Gesneriaceae" (Selbyana 6: 1983) and the many revisions and regional accounts of Larry Skog. Contributions by Alain Chautems, Lars Peter Kvist and others have also added to a comparatively good knowledge of American Gesneriaceae, though much work is certainly still to be done.

In contrast, the last overall treatment of paleotropical Gesneriaceae dates back to the last century, namely to C.B. Clarke's "Cyrtandreae" (1883) in the monumental book series "Monographiae plantarum" by A. & C. DeCandolle. Since then the African Gesneriaceae have received some attention, as they include the popular "African violets" (*Saintpaulia*) and the "Streps" (*Streptocarpus*) with their curious twisted fruits. The latter genus was treated in detail in the book "*Streptocarpus*—an African Plant Study" (Hilliard & Burt 1971).

With respect to Asiatic Gesneriaceae, the account for the new "Flora of China", edited by Z.Y. Wu and P. Raven, is an important step forwards. But in general, the Asian Gesneriads have received comparatively little attention and are the least known group. They still offer a wealth of problems at various taxonomic levels.

In a number of publications, compiled in a double issue of "Beiträge zur Biologie der Pflanzen" [vol. 70 (2-3): 149-470, "1997", published Nov. 1998] the present authors (and eventual co-authors) have dealt with some of the most urgent taxonomic problems in Asian, especially South East Asian, Gesneriaceae. The studies resulted in new definitions of significant genera as well as in the erection of some new genera. The individual papers included in the issue are fully cited at the end.

The papers can be roughly divided into three parts and grouped around three old genera: (1) *Didymocarpus*, established in 1819 by the Danish physician and botanist Nathaniel Wallich; (2) *Didissandra*, established in 1883 by the English botanist C.B. Clarke; and (3) the genera *Boea* and *Paraboea*, established 1785 by Lamarck and 1905 by Ridley, respectively. The latter genera were recently revised by B.L. Burt (1984), but the affiliation of two species was left open. These two and another, new species have been (re-)investigated in cooperation with Dr. Ruth Kiew, Singapore, and each has been placed into a new genus.

A broad range of characters has been examined to find out the natural relationships of the species involved. With respect to morphological characters, growth pattern, fruit morphology and seed coat structure (examined by SEM) proved to be of great significance. But also the investigation of chromosome numbers yielded interesting and taxonomically valuable results.

This is the first article in a series that aims to survey and introduce the new genera and the old genera in their new circumscription to Gesneriad enthusiasts who may not have access to the scientific literature. Though scarcely known from the horticultural point of view, many of the plants involved are most attractive and certainly merit the appreciation of Gesneriad lovers. Therefore, photographs of a number of species are shown here to give a better idea of the plants covered under unfamiliar Latin names.

In general, these tropical plants are difficult to grow (a glasshouse with control of temperature and humidity is an indispensable prerequisite). Only few species are in cultivation. Plant collecting is now very much controlled in Asian countries and collecting, even of seed, must be done with careful consideration and with the knowledge (or written permit) of appropriate local authorities. US-citizens must be well-drilled with the problems of import-permits.

Papers in Beitr. Biol. Pflanzen 70(2/3):

Weber, A.; Burtt, B.L., 1998: General introduction to taxonomic studies in South East Asian Gesneriaceae. — Beitr. Biol. Pflanzen 70 (2/3): 149-151.

Weber, A., Burtt, B.L., 1998: *Didissandra*: redefinition and partition of an artificial genus of Gesneriaceae. — Beitr. Biol. Pflanzen 70 (2/3): 153-177.

Sontag, S., Weber, A., 1998: Seed coat structure in *Didissandra*, *Ridleyandra* and *Raphiocarpus* (Gesneriaceae). — Beitr. Biol. Pflanzen 70 (2/3): 179-190.

Weber, A., Burtt, B.L., 1998: Revision of the genus *Didissandra* (Gesneriaceae). — Beitr. Biol. Pflanzen 70 (2/3): 191-223.

Weber, A., Burtt, B.L., 1998: Revision of the genus *Ridleyandra* (Gesneriaceae). — Beitr. Biol. Pflanzen 70 (2/3): 225-273.

Vitek, E., Weber, A., Burtt, B.L., 1998: Generic position of the species hitherto referred to *Didissandra* (Gesneriaceae). — Beitr. Biol. Pflanzen 70 (2/3): 275-291.

Weber, A., Burtt, B.L., 1998: Remodelling of *Didymocarpus* and associated genera (Gesneriaceae). — Beitr. Biol. Pflanzen 70 (2/3): 293-363.

Burtt, B.L., 1998: Taxonomic history of *Didymocarpus* and *Henckelia* (Gesneriaceae). — Beitr. Biol. Pflanzen 70 (2/3): 365-375.

Burtt, B.L., 1998: New species of phytogeographical interest in *Beccarinda* and *Henckelia* (Gesneriaceae). — Beitr. Biol. Pflanzen 70 (2/3): 377-382.

Kiew, R., Weber, A., Burtt, B.L., 1998: Three new genera of Gesneriaceae from limestone of Peninsular Malaysia. — Beitr. Biol. Pflanzen 70 (2/3): 383-403.

Weber, A., 1998: New taxa of *Monophyllaea* (Gesneriaceae) from Peninsular Malaysia. — Beitr. Biol. Pflanzen 70 (2/3): 405-406.

Kiehn, M., Hellmayr, E., Weber, A., 1998: Chromosome numbers of Malayan and other paleotropical Gesneriaceae. I. Tribe Didymocarpeae. — Beitr. Biol. Pflanzen 70 (2/3): 407-444.

Kiehn, M., Weber, A., 1998: Chromosome numbers of Malayan and other paleotropical Gesneriaceae. II. Tribes Trichosporaeae, Cyrtandreae and Epithemateae. — Beitr. Biol. Pflanzen 70 (2/3): 445-470.

Additional relevant papers:

Burt, B.L., 1974: Studies in the Gesneriaceae of the Old World. XXXVII. *Schizoboea*, the erstwhile African *Didymocarpus*. — Notes Roy. Bot. Gard. Edinburgh 33: 265-267.

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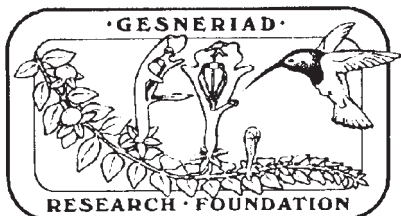
Photos of *Didymocarpus* species courtesy of Dr. Anton Weber and the Institute of Botany at the University of Vienna; illustrations courtesy of the Royal Botanic Garden Edinburgh

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Redefined, Revived and New Genera of South East Asian Gesneriaceae: The Restricted Genus *Didymocarpus*

A. Weber, Institute of Botany, University of Vienna
B. L. Burt, Royal Botanic Garden Edinburgh

D*idymocarpus* was established in 1819 by the Danish physician Nathaniel Wallich, who was Superintendent of the Botanic Garden at Calcutta. In fact, it was described in a letter sent to F. Hamilton, who passed it on for publication. The genus was based on plants that Wallich had received from Nepal. Later that same year William Jack, doctor and naturalist on the staff of Sir Stamford Raffles, was able to work with Wallich in Calcutta and showed him plants from Penang. They decided that these should be included in *Didymocarpus* and Wallich wrote a revised description which Jack used when he published his new species in 1820. Since then, species of different morphology and geographical origin (for some time even from Africa and Australia) have been described in that genus. *Didymocarpus* thus became a dumping ground for a large number of partly non-related species. The list of species described under that genus amounts to more than 250 names.

Our studies of macro- and micromorphological characters, as well as chromosome numbers of *Didymocarpus* and the investigation of the associated genera *Loxocarpus*, *Platyadenia*, and *Codonoboea* led us to split the whole alliance into three genera: *Didymocarpus* sensu stricto, *Henckelia* (an old generic name, now revived), and *Hovanella* (a new genus).

Didymocarpus s.str. remains as an alliance of 70-80 species centered in South China and the Himalayas (N and NE India, Nepal, Bhutan). The genus extends to the South (Myanmar/Burma, Thailand, Vietnam) and even enters, with some eight species, the everwet tropics in the Malay Peninsula and (1 species) N Sumatra.

How to recognize a 'true' *Didymocarpus* and how to distinguish it from its segregate *Henckelia*? There are several elementary characteristics and differences:

(1) The essentially seasonal growth pattern, which clearly reflects the seasonal climate of the main distribution area. From a basal (underground) rootstock there arise aerial herbaceous shoots. The shoots bear two or three leaf pairs, often forming a pseudo-whorl at the top. The leaves produce axillary inflorescences. After flowering and fruiting the shoots die, but new shoots are developed from the base of the plant. These rise just above the soil surface and remain in the initial stage until favourable conditions return. The same pattern is conserved even in the tall, many-leaved tropical species, which are confined to mountains of middle to high elevation.

(2) The fruits are placed in straight line with the pedicel; they are 'orthocarpic'. The fruit base becomes usually narrower and often there is a distinct stipe present. Dehiscence is along the median line of both carpels. The fruit thus can be characterized as an orthocarpic, bivalved capsule. The position is erect, in some cases pendulous (in that the inflorescences or the pedicel or the stipe curves over). There is apparently no specialized mechanism or agent for seed dispersal: the seeds may be shaken out by wind, rain or passing animals.

(3) The bracts and the sepals have usually a cartilagineous texture, with a smooth polished surface and are often coloured.

(4) The flowers are usually mauve- or claret-coloured (but also white or yellow in the Malayan species).

(5) A number of species bear robust, pigmented glands on the leaves (usually clearly visible on the leaf underside). Mostly the head of the glands is one-celled and ppherical, but also two- and four-celled types occur.

(6) Despite rather uniform morphology, chromosome numbers are varied in *Didymocarpus*: $\times = 11, 12, 14, 16$ and 18 have been reported as base numbers. What these numbers mean in taxonomic respects is still open to debate.

With respect to species number, species delimitation, geographical distribution, *Didymocarpus* s.str. is in need of a thorough revision. As a first step towards such a revision, a checklist has been prepared by the authors and Dr. E. Vitek (Museum of Natural History Vienna), which gives taxonomic details (reference to original description, type specimen, presently known distribution, comments, references to figures and recent literature) to all species. It will be published in *Ann. Naturhist. Mus. Wien*.

On page 20, *Didymocarpus oblongus* is shown in a historical illustration, namely tab. 140 of Wallich's "Plantae Asiaticae Rariores" (1831). The illustration shows well the typical structure of the flowering shoots (a pseudo-whorl of foliage leaves on top of the stem, with richly branched inflorescences emerging from their axils) as well as the fact that the fruiting shoots drop the leaves and die after seed dispersal. Another fine illustration



1831 illustration from "Plantae Asiaticae Rariores" of *Didymocarpus primulifolius* (and *D. macrophyllus* capsules)

was published under the name *Didymocarpus aromaticus* in the same book (tab. 141), but in fact it shows two species, neither of which is true *D. aromaticus*: Figs. 1-3 must be referred to *D. primulifolius* (which is the type species of the genus) and Figs. 4-7 to *D. macrophyllus*. All these species are from the northern part of the distribution area, namely Nepal and NW India.

One of the most attractive species is *D. bicolor* from NE Thailand. It has two-coloured flowers, with a dark wine-red corolla tube and (very dark, nearly black) upper lip, while the lower lip is white or greenish. Another species, *D. wengeri*, from E India near the Burmese border, has the lower lip bright yellow, the rest of the corolla wine-red as in *D. bicolor*. In most species, however, the whole corolla is wine-red or purple, though there may be paler stripes in the throat and a few species shade towards orange.



Didymocarpus bicolor

The few species occurring in the everwet tropics (southernmost Thailand and Malay Peninsula, but usually confined to high mountains and montane areas) are taller in habit, have the leaf pairs spaced, and display a considerable variability in flower shape and flower colour. While *D. purpureus* and *D. violaceus* have purple and violet flowers of the ordinary type, those of *D. citrinus* and *D. sulphureus* are lemon- and sulphur-yellow, respectively. *D. citrinus* is endemic on Kedah Peak (Gunung Jerai) in Peninsular Malaysia. In suitable humid rock crevices it forms often dense mats of erect shoots with



Didymocarpus oblongus (1831 illustration from "Plantae Asiaticae Rariores")



Didymocarpus sulphureus growing in the Cameron Highlands



Didymocarpus cordatus growing at Maxwell's Hill (Bukit Larut)



Didymocarpus bicolor grown at Edinburgh Botanical Garden

dark green, soft hairy leaves. Among the flowering shoots, dead fruiting shoots from the last year can always be found. This shows that the typical growth pattern—annual shoots that flower and fruit in one and then die—has not been lost. *D. sulphureus*, a tall, straggling plant occurring in the famous Cameron Highlands in Central Malaysia, is remarkable for the long-peduncled, pendulous inflorescences.

Corolla form changes remarkably in the white flowered species: in *D. antirrhinoides* and *D. corchorifolius* the flower resembles amazingly that of a snapdragon and in *D. cordatus* it has a short, broad tube and a wide open mouth. *D. corchorifolius* inhabits the northern part the Malay Peninsula, while *D. antirrhinoides* (distinct by the fused bracts and sepals forming a distinct cup) is found in the central and southern part. The upcurved part of the lower lip enclosing the corolla mouth may show a yellowish or pinkish coloration. Though the shoots are tall and appear somewhat woody, they die after flowering and fruiting and new shoots arise from a condensed rootstock.



Didymocarpus antirrhinoides
(note resemblance to a snapdragon-
flower (*Antirrhinum*))

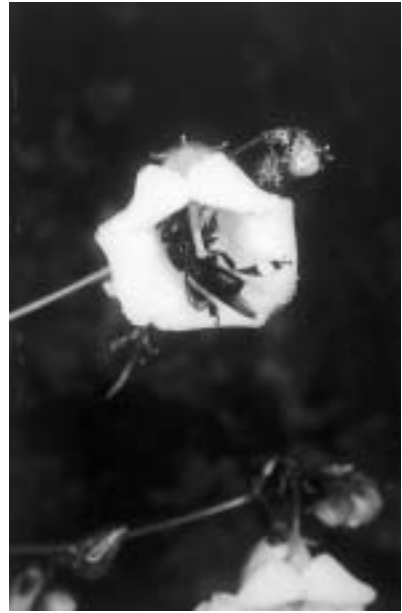


Didymocarpus corchorifolius
(note sepals fused to a cup and closure
of corolla mouth by the raised lower lip)

D. cordatus occurs from Kedah Peak (Gunung Jerai) southwards over Penang and the Central Range as far as Mt. Ophir (Gunung Ledang) in Johore, which is the southernmost state in Peninsular Malaysia. The species forms several local variants. The population on Kedah Peak has been described as *D. cordatus* var. *debilis* because of the smaller stature and weakness of the shoots. It has distinctly smaller flowers than the type variety on Penang Island. The plants of Mt. Ophir have been described as var. *ophirensis*.



Didymocarpus cordatus
(underground part of plant
with sprouting new shoots)



Didymocarpus cordatus
flower with *Trigona*
bee inside

D. cordatus is remarkable for two other aspects. (1) The lack of a nectary, the unusual 'campanulate' corolla, the dehiscence of the stamens by apical pores, and the powdery pollen suggest that—in contrast to (probably) all other species of *Didymocarpus*—the flowers represent 'pollen flowers', which are pollinated by pollen-collecting bees (buzz-pollination). (2) *D. cordatus* is the only species of *Didymocarpus* that has succeeded in hopping from the Asiatic mainland to one of the big islands of the Malay Archipelago: it was recently also discovered in N Sumatra.



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Letter from Wahrenonga

Sorry I have been silent for so long, but things here are hectic as usual and I just haven't had the time to sit down and write about what has been happening here.

A lot of water has flowed under this bridge since I last wrote in for the magazine and I'm sure people have been wondering if the weather or political events just to the north have affected me in any way. Well, to put your minds at ease, nothing like that, and in fact the weather has been okay this year with no flooding, etc. Down in the Cape where they suffered the dreadful fires around Christmas time, it has been terribly dry and hot so none of the usual bulbs have flowered this year. The weather has had a definite affect on the plants in sub-Saharan Africa!

The streptocarpus here have flowered okay this summer but most are now heading fast for dormancy. There are the late exceptions though, and these have started flowering quite late in the season. Among the species that are flowering on the tables now are the numerous forms of *S. primulifolius* as well as *S. fasciatus*—they are the only ones that still look "healthy". Others, like *S. cyaneus*, have yellowed leaves which I have been removing every so often. Some of the species just haven't flowered despite getting the right fertilizers, etc. Of my seven plants of *S. dumii*, only one elected to flower this year and even then it was attacked by a nasty caterpillar that savaged the plant. There must be something in what people say about species that flower in cultivation only when the wild colonies flower—something to do with the light levels, moisture content and other environmental factors.

The taxonomist at the Pietermaritzburg University, Trevor Edwards, came up here and took some flowers and plants to do DNA tests as well as to check how closely related some of the plants actually were. These were mostly plants of *S. primulifolius*. No matter what people say, I have the plants flowering in front of me and can see very marked differences even though they are put in the same classification! Trevor has said that he will be naming the one that comes from Itala game reserve as well as another that was found on Three Sisters mountains in the Eastern Transvaal. I have one plant of this species on the tables but it doesn't look ready to flower soon... maybe only next year!

I have been asked to guide some people from Suntory Flowers in Japan on a trip into the northern province in November. There is every likelihood that we will head into the Soutspansberg Mountains where I know there are *Streptocarpus* species and a unique micro-climate that supports plant species that you wouldn't normally find in the hot and arid area of the northern province. From what I can remember, the altitude is around 1500–1800m on the top of that range and they have mistbelt vegetation—that in an area where the summer temperatures regularly peak 40 degrees. Trevor Edwards has often enthused about that place, and if all goes well I may even have a chance to find something "unique".

Martin Kunhardt

Slide Library Update

Dee Stewart <DeeStewart@alum.mit.edu>
1 No Name Road, Stow, MA 01775-1604

At the beginning of January, Marlene Beam passed responsibility for the slide program library to me. Marlene did a great job rejuvenating the library and I hope to follow in her footsteps with new programs each year. Thanks to Marlene's groundwork, the program on *Streptocarpus* species is now in circulation and is very popular. A program on *Streptocarpus* hybrids is in the works and should be available for circulation later this year.

The complete list of programs currently available is as follows:

- Introduction to Gesneriads
- Achimenes
- Chirita
- The Companion Genera (*Nematanthus* and *Codonanthe*)
- Sinningias
- Streptocarpus* Species
- The 1999 Convention (Nashville)
- The 1998 Convention (Chicago)

Program rental is \$20.00 US payable in advance by check, Visa or MasterCard. When ordering, it helps if you can provide alternative program choices or alternative dates. Some of the programs are very popular and are "sold out" months in advance. My address for requesting slide programs is above.

If there are programs you would like to see developed (or even better, would like to help develop), I'd love to hear from you.



Streptocarpus pusillus
(photo from the collection
of Irwin Rosenblum
donated to AGGS)

Gesneriad Register

Judy Becker, Registrar <jbecker@mohawk.net>
432 Undermountain Rd., Salisbury, CT 06068-1102

The following registrations should be added to the Registered Gesneriads List found in Appendix C of the 1990 Gesneriad Register:

00720	<i>Streptocarpus</i> 'Laurie Anderson'	<i>S.</i> 'Picotee' × <i>S.</i> 'Mary Sakamoto'	G. Gessert
00721	<i>Streptocarpus</i> 'Cranberry Velvet'	<i>S.</i> 'White Christmas' × <i>S.</i> 'Silhouette'	J. Ford
00722	<i>Streptocarpus</i> 'King of Kings'	<i>S. vandeleurii</i> × <i>S. johannis</i>	J. Ford
00723	<i>Streptocarpus</i> 'Pink Icing'	<i>S.</i> 'White Christmas' × <i>S.</i> 'Brigadoon'	J. Ford
00724	<i>Streptocarpus</i> 'Strawberry Milkshake'	<i>S.</i> 'White Christmas' × <i>S.</i> 'Brigadoon'	J. Ford
00725	<i>Streptocarpus</i> 'Watermelon Wine'	<i>S.</i> 'Eclipse' × self	J. Ford
00726	<i>Kohleria</i> 'Brimstone'	<i>K. bogotensis</i> × <i>K. hondensis</i>	J. Boggan

Descriptions are as follows:

***Streptocarpus* 'Laurie Anderson'**, 2000, IR00720, George Gessert, OR. (*S.* 'Picotee' × *S.* 'Mary Sakamoto'). Cross made Apr. 1996, planted Aug. 1996 and first flowered May 18, 1998. Plant fertile but reproducible only vegetatively. Rosette. Leaves bullate, medium green, 10" long × 2" wide, linear with undulate margins, acute tip and cuneate base. 2-5 flowers per 5" peduncle. Corolla salverform, 2-1/2" long × 3" in diameter, light pink, deepening with age, blackish red lines extending from the throat appear to be truncated by a white halo.

***Streptocarpus* 'Cranberry Velvet'**, 2000, IR00721, Jonathan Ford, OH. (*S.* 'White Christmas' × *S.* 'Silhouette'). Cross made July 1998, first flowered June 1999. Plant fertile but reproducible only vegetatively. Compact rosette. Leaves medium green, hairy, bullate, 15 cm long × 5 cm wide, linear with acute tip, cordate base and serrate edge. Calyx split. 3-4 flowers per peduncle. Corolla double, salverform, 2.5 cm long, 4.25 – 4.5 cm in diameter, bright cranberry, lower lobes have large white edges with cranberry veins. Top lobes are white with cranberry veins, double lobes are white with cranberry veins, some slight ruffling on the edges. Available from Rock Bottom Farms, Middlefield, OH.

***Streptocarpus* 'King of Kings'**, 2000, IR00722, Jonathan Ford, OH. (*S. vandeleurii* × *S. johannis*). Cross made May 1999, first flowered Feb. 2000. Plant fertile but reproducible only vegetatively. Very large growing rosette. Leaves bright green, bullate, hairy, 60-70 cm long × 20-23 cm wide, linear with acute tip, cordate base and serrate edges. Calyx split. 3-4 flowers per peduncle. Corolla salverform, 3.5 cm long, 5.5 – 6 cm wide, bright purple with very dark, almost black purple velvet coming from throat into "fangs" on petals. Flower has lovely scent. Available from Rock Bottom Farms, Middlefield, OH.

***Streptocarpus* 'Pink Icing'**, 2000, IR00723, Jonathan Ford, OH. (*S.* 'White Christmas' × *S.* 'Brigadoon'). Cross made Sept. 1998, first flowered June 1999. Fertile but reproducible only vegetatively. Compact rosette. Leaves hairy, bullate, medium green, 15-20 cm long × 7-8 cm wide, linear with acute tip, cordate base and serrate edges. Calyx split. 3-4 flowers per 7.5 cm peduncle. Corolla salverform, 2.5 cm long × 4 – 4.5 cm wide, medium



Streptocarpus 'Cranberry Velvet'



Streptocarpus 'King of Kings'



Streptocarpus 'Watermelon Wine'



Streptocarpus 'Pink Icing'



Streptocarpus 'Strawberry Milkshake'

pink with slightly darker veins, throat white with two bright yellow "fangs". Available from Rock Bottom Farms, Middlefield, OH.

***Streptocarpus* 'Strawberry Milkshake'**, 2000, IR00724, Jonathan Ford, OH. (*S.* 'White Christmas' × *S.* 'Brigadoon'). Cross made Apr. 1999, first flowered Feb. 2000. Fertile but reproducible only vegetatively. Rosette, medium sized plant. Leaves medium green, hairy, bullate, 25-30 cm long × 8-10 cm wide, linear with serrate edges, acute tip and cordate base. Calyx split. 3-4 flowers per 9 cm peduncle. Corolla salverform, 3 cm long × 4.25 – 4.5 cm wide, mauve with darker blush, throat white with pale yellow stripe. Available from Rock Bottom Farms, Middlefield, OH.

***Streptocarpus* 'Watermelon Wine'**, 2000, IR00725, Jonathan Ford, OH. (*S.* 'Eclipse' × self). Cross made Apr. 1999, first flowered Feb. 2000. Fertile but reproducible only vegetatively. Large growing rosette. Leaves bright green, hairy, bullate, 25-30 cm long × 8-10 cm wide, linear with serrate edges, acute tip and cuneate base. Calyx split. 4-5 flowers per 8 cm peduncle. Corolla salverform, 3.5 cm long, 5.5 – 6 cm wide, bright red velvet lower lobes with medium white edges and darker red veins, darker blush into throat, top two lobes are watermelon, with narrow white edge with darker red veins. Available from Rock Bottom Farms, Middlefield, OH.

***Kohleria* 'Brimstone'**, 2000, IR00726, John Boggan, DC. (*K. bogotensis* × *K. hondensis*). Cross made 1996, planted 1997 and first flowered July 1998. Fertile but reproducible only vegetatively. Compact plant with sturdy upright stems to 12" tall. Leaves hairy, dark gray-green with a silvery "feathering" pattern, 6" long × 3-4" wide with 1" petiole, elliptic with crenate edges, acute tip and cuneate base. Pedicel to 2" long with 2-4 flowers per axil, calyx split. Corolla tubular with small limb, 1" long and 1/2" wide, tube red-orange densely covered with orange-red hairs, limb bright yellow with small deep-orange speckles. First commercial listing, 2000, Kartuz cat.



Kohleria 'Brimstone'



Streptocarpus 'Laurie Anderson'



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The Basics: Temperature and Humidity

Monte Watler <monte.watler@sympatico.ca>
240 Burnhamthorpe Rd, Etobicoke, ONT M9B 1Z5 Canada

As a beginner, you should learn as much as possible about your plants in order to afford them the necessary requirements. Since the majority of our indoor plants are indigenous to the tropics, it is natural that we should try to provide them with an environment as close to their natural habitat as practical. This is not always possible with the gesneriad family. They have been acquired from varied climatic areas of the globe and require diverse conditions for growing.

So, instead of trying to adjust our conditions to suit an assorted collection of plants, we must select plants that will thrive under the conditions we can best provide. While many are adaptable and will adjust somewhat to unaccustomed conditions, it is improbable that one would successfully grow an alpine such as *Ramonda* (cool grower) in proximity to *Episcia* (a tropical, heat-loving genus).

The ideal temperature for growing most gesneriads is 18-27 degrees Celsius (65-80 degrees Fahrenheit). Most plants will tolerate, and some plants actually benefit from, a sudden change in temperature. However, it is advisable to try to maintain an even temperature, although it is normal for the temperature to be somewhat cooler at night than during the day. A sudden change in temperature, hot or cold, can have a dramatic and sometimes detrimental affect on some plants.

Sometimes, for comfort or economic reasons, it may be necessary to reduce your thermostat at night to a setting that may result in an unacceptable temperature for your plants. This can be mitigated by running your plant lights at night instead of during the day and also by enclosing your plant stands in clear plastic sheeting. This will help to conserve the heat and keep the temperature at a level that will not affect your plants.

Adequate humidity, or the amount of moisture in the air, is imperative for most indoor plants. Quite often it is one of the more difficult conditions to provide. In the temperate areas our central heating systems produce dry air in the winter, and in the summer our air conditioning extracts the moisture from the air. To keep humidity at a level that is most beneficial to plants, we will find it sometimes becomes uncomfortable for us. For comfort in the winter, our houses average 40% humidity while the acceptable level for plants is closer to 60%.

The following are ways and means of increasing the humidity in the plant room without affecting the other areas of the house:

- Set plants on trays or individual saucers filled with pebbles, keeping water level below the top of the pebbles. Water will evaporate and rise, providing humidity.
- Place a humidifier in the room. An inexpensive vaporizer from the pharmacy is ample.
- Jars of water placed among the plants on the plant shelf will also increase the humidity.

- If you have deep plant trays, cover them with egg crating as a base on which to place your plants. Fill the tray with water which will gradually evaporate and increase the humidity.
- Cover your plant stands with clear plastic sheeting. This will increase the temperature as well as contain the moisture which is being emitted by the plants.

Misting is another means of increasing humidity, but it is quite labor-intensive and not very effective. Automatic misting, as is done in some greenhouses at regular intervals, might be beneficial, but when it is done by hand on an occasional basis, the benefit is not worth the effort. Should you decide to mist, please ensure that the water is as hot as possible. Cold water will damage the leaves. If your water is lukewarm to start with, it will be cold by the time it passes through the air and reaches the plant. One other thing to remember is that misting is not spraying. Misting is very fine and almost fog-like, while spraying is a shower of droplets.

Most gesneriads dislike dry air and will not hesitate to show their displeasure. Leaves will turn yellow and fall, leaf tips will dry out and become parched, the development of growth and blossoms will be retarded, and buds will blast (fail to open).

Good air circulation is essential. This can be provided by installing a small fan near the plant stand, but not where it will directly blow on the plants, or by leaving the circulating furnace fan running perpetually. Plants will do less well in an area with static air. Lack of ventilation and poor air movement may result in mildew as well as crown rot on some plants. *Saintpaulia*, *Sinningia*, and *Episcia* are some of the genera that are susceptible to crown rot. Good ventilation will also help afford a more even temperature in the plant room. On the other hand, plants should never be exposed to drafts or have direct hot or cold air blowing on them. The ventilation should be indirect.

Basic Tips for the Beginning Gesneriad Grower:

- ❁ Keep it simple when you start out.
- ❁ Avoid the tendency to get lots and lots of different plants. There's plenty of time for that later. Begin with a few plants and see how well you can grow them. Learn what their needs are. If one plant struggles or dies, concentrate on growing others that do well for you, then later move on to more difficult ones.
- ❁ Try gesneriads in different conditions, whatever is available to you: various windowsill exposures, under lights if you have them, at home or at work, outdoors if it is warm enough. Learn about the microclimates in your living area.
- ❁ Read about gesneriads and learn about them. Purchase some back issues of THE GLOXINIAN. If you have Internet access, explore the AGGS web site <www.aggs.org>. This site will lead you to other internet resources such as Ron Myhr's web site and the email correspondence club Gesneriphiles.

Seven Days...

Leong Tuck-Lock

24 Jalan Johor, Taman Canning, 31400 Ipoh, Perak, Malaysia

Seven days and seven nights, about 1600 kilometres, limestone hills, three mountains, numerous forest trails and walks, hot tropical sun, high humidity and high temperatures, rain and mist, mosquitoes, flying insects, creepy crawlies and blood-thirsty leeches—these are what Maryjane Evans and Jeanne Katzenstein experienced just to have a closer look at Old World gesneriads in Peninsular Malaysia. They came well prepared, including a video camera and three small cameras to document the trip, as well as bug spray and salt to ward off insects and leeches, respectively.

Four locations were visited: the limestone hills around Ipoh, Taiping Hills, the Cameron Highlands, and Fraser's Hill. To help us in identifying the plants, two old and out-dated references were mainly used: Ridley's "The Flora of the Malay Peninsula" and Henderson's "Malayan Wild Flowers" (Vol. 1, Dicotyledons). Another reference used was Burt's "Studies in the Gesneriaceae of the Old World, a Preliminary Revision of *Monophyllaea*".

At the same time, we were aware of many recent changes in names and classification of many Malaysian gesneriads, especially those of *Didissandra* and *Didymocarpus*. As we did not have information on the changes at that time, the old names were used for identifying the species in the field to the best of our ability. It took only a short time for Maryjane and Jeanne to become familiar with Old World gesneriads and quickly they became good at spotting the plants. Of course, most were unfamiliar to them with the exception of *Chirita* and *Aeschynanthus*; but even then, this was different in that



Leong Tuck-Lock in the Cameron Highlands



Henckelia crinata "Best in Forest" in the Taiping Hills

they were seeing the plants *in situ*. There also were some plants that we could not identify to genus or species, but our feeling was that they were gesneriads.

Each day Jeanne kept a tally on the genera and species, identified or unidentified, that were found. Over dinner we talked about the finds of the day and recalled the oohs and aahs on finding some really nice specimens. There were big oohs and aahs, for instance, our first day in the Taiping Hills when a really nice specimen of *Henckelia crinata* (= *Didymocarpus fasciatus*) was found in flower. It was quickly awarded "Best in Forest". A few days later in the Cameron Highlands, *Ridleyandra morganii* (= *Didissandra morganii*) and *Didymocarpus sulphureus* had their share of the oohs and aahs. The biggest oohs and aahs that went resounding through the forest went to *Henckelia quinquevulnera* (= *Didymocarpus quinquevulnerum*), a most attractive gesneriad on a shady forest trail on Fraser's Hill. The flowers looked just like those of the spectacular Yamamoto dendrobiums! I am positive that the oohs and aahs on that day frightened off those blood-sucking leeches.

On the whole, many rolls of films were used up, and I am sure there will be some good pictures of Malaysian gesneriads to share with everyone at this year's convention. Watch for them.

Photos in Malaysia courtesy of Leong Tuck-Lock,
Maryjane Evans and Jeanne Katzenstein

Malaysia!

Reprinted from the posting made to the Gesneriphiles email discussion group a few days after our return.

Maryjane Evans <pollin8r@aol.com>
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Malaysia could be described as a country of exceptional life-forms. It has the world's tallest tropical tree (*tualang*), largest snake (reticulated python), largest flower (*rafflesia*), and largest bat. The name of the bat escapes me, but it was *most* impressive with a head as large as a Yorkie and a wingspan of about four feet.

The gesneriads are exceptional, too, ranging from shrubby *Cyrtandra* to diminutive *Epithema*. Jeanne and I traveled from the lowland rainforest to the montane rainforest and saw wonderful gesneriads in a variety of habitats. We saw limestone walls with huge colonies of hundreds of plants of *Paraboea* (several leaf colors) growing in the sun. Shadier niches in the limestone harbored *Monophyllaea*, *Epithema*, and *Chirita*. Rocks and moist roadcuts had colonies of *Henckelia*, *Ridleyandra*, and *Didymocarpus* in bloom, with purple, violet, white, lavender, and blue flowers. I always thought of *Aeschynanthus* as an epiphytic genus, but many plants in flower were seen growing on moist rocks. And for the Largest-Leaf Category, there was a chest-high species of *Cyrtandra* with 2" white flowers. It was thrilling to see so many Asian gesneriads in bloom, many of them not in cultivation and not well known.



Paraboea species



Cyrtandra pilosa



Maryjane Evans, Cheaw Hon Ming, Leong Tuck-Lock,
Jeanne Katzenstein

We were able to travel to a variety of habitats and see all these lovely plants because of the generous and kind nature of Leong Tuck-Lock of Ipoh, Perak. I have been corresponding with him for eleven years and it was wonderful to meet him at last. He picked us up at the airport in Ipoh and acted as guide/guardian/host/friend/advisor to us for our entire stay. He drove us *everywhere* for over a week, from Ipoh in the lowlands to the hill stations in the highlands, all the while booking hotels, translating menus, loading and unloading luggage, identifying plants, dispensing travel advice and leech remedies, and giving us a crash course in Malaysian history and culture. His presence and expertise enhanced our travel tremendously, and we would not have had such a wonderful experience without his help and caring.

We also had the opportunity to meet Cheaw Hon Ming, a Gesneriophiles listmember who has posted several gesneriad images for us. He is an avid birder and Chairman of the Perak Branch of the Malaysian Nature Society.

If you're thinking of going to Malaysia for the weekend, there *are* considerations. From the East coast of the U.S., we flew 13 hours nonstop to Tokyo, had a 4-hour layover, flew 6 hours to Singapore, took a 1-hour flight to Kuala Lumpur and continued on to Ipoh. Because of the 13-hour time difference and the international dateline, it took almost two days to get there but only eleven hours to come home!

It was a memorable trip but there is still a lot of Malaysia we haven't seen. We traveled to peninsular Malaysia; we didn't get to Sabah or Sarawak or Mt. Kinabalu or up the west coast to Langkawi or....

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Chirita sericea



Henckelia curtisii



Ridleyandra morganii



Aeschynanthus parvifolius

Malaysia... the First Time

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You've read Tuck-Lock's impressions of our trip and you've read Maryjane's summary that she posted on Gesneriphiles just after we returned. Since arriving home, I've been in weekly email contact with Dr. Anton Weber at the Institute of Botany in Vienna. His help in confirming or identifying the species we encountered has been invaluable, and I've included all the newly published or revised names in this account of our trip.

Maryjane and I arrived in Ipoh, Malaysia on March 4, 2000. We were met by Tuck-Lock, given a quick tour of his outdoor growing area at home, and then checked into our hotel. That same afternoon we experienced our first Malaysian gesneriads growing *in situ* by visiting the first of several cave temples we were to see in the lowland limestone hills around Ipoh. On the walls of these sheer cliff faces grow lime-loving gesneriads like *Chirita sericaea* and *C. caliginosa*, *Monophyllaea hirticalyx* and *M. horsfieldii*, *Epithema saxatile*, and several species of *Paraboea* with green or silver leaves, but no flowers to be seen to help with identification.

On our second day, we headed north toward the Taiping Hills to the Bukit Larut Reserve Forest, formerly known as Maxwell's Hill. Tuck-Lock had visited this preserve before and knew the forest there (at just over 1,000 meters) was rich with a diversity of plant material, including many gesneriads. Near the top of the hill, the temperature was pleasant even though the humidity was high, and we spent six hours there leisurely walking and investigating the forest—this was Maryjane and my first exposure to an Old World rainforest and we wanted to absorb it all. We found individual plants as well as large colonies of several gesneriad species: *Aeschynanthus parvifolius*, *Cyrtandra pilosa*, *Henckelia crinita* (our "Best in Forest" there), *Ridleyandra quercifolia* and *Didymocarpus cordatus*.



Jeanne and Maryjane enjoying their first day in an Old World rainforest



Henckelia hispida



Ridleyandra quercifolia

Later that afternoon we explored another forest area near the bottom of the hill. Here we found a few individual plants of *Henckelia albomarginata* and *Didissandra frutescens*, neither in flower but with seed capsules, and a large colony of *Henckelia reptans* var. *monticola* with a few white, solitary flowers. It was a nice finish to a full day in the Taiping Hills, and we drove back to Ipoh very happy and more than satisfied with our first visit to an Old World tropical rainforest.

After a good night's rest, we headed south toward the Titiwangsa Mountain Range to the area known as the Cameron Highlands. We made a few stops on the way up into the hills and found *Monophyllaea horsfieldii* and unidentified species of *Cyrtandra* and *Aeschynanthus*. Up in the highlands we found several large colonies of *Ridleyandra morganii* growing on the moist, mossy banks along the main road. This species hopefully will come back into cultivation as it should make a good horticultural specimen with its decorative leaves, large colorful flowers, and compact rosette habit.

The Cameron Highlands consists of several towns with many hotels and restaurants all surrounded by vegetable and fruit farms, tea plantations, and nurseries. It has become a prime tourist area because of its pleasant highland temperatures. There are still some natural forests left, and many areas have well-established, numbered trails designed for nature-lovers to enjoy. We chose Walk #4 and headed toward Parit Falls finding several gesneriads along the way. The most common was *Henckelia hispida* in many forms, some with smaller or larger flowers and different color markings, and some with an almost purplish coloring to the leaves. We found only a few plants of *Henckelia venusta* in bud as well as a large clump of *Aeschynanthus longicalyx* with only one bright-red flower, but a spectacular one over four inches long!

The next morning we headed for Walk #9 and Robinson Waterfalls and found several plants of *Cyrtandra pilosa* in flower, a plain-green-leaf *Henckelia* with light blue flowers, and more showy flowers on several plants of *Ridleyandra morganii*. That afternoon we had to abandon our plans to drive further up into the hills as the road became very poor and might have become dangerous in the rain. We spent time at a favorite nursery of Tuck-Lock's where he purchased some plants to add to his collection at home. There among the other interesting plant material, we found many beautiful blooming plants of *Didymocarpus sulphureus*, the gesneriad we had hoped to see near the top of the mountain. This vining/shrubby gesneriad dangles its showy bright-yellow flowers with maroon calyces on pedicels up to a foot long. We were thrilled to find it there at the nursery along with other "cultivated" foreign gesneriads including saintpaulias, nematanthus, sinningias and chrysothemis.

Back in Ipoh on our hottest day yet, we started with a 385-step climb to the top of a cave temple and found *Chirita sericea* and two species of *Paraboea* high on the limestone hill. Later we visited another cave temple, at ground level, and found many more colonies of *Chirita*, *Epithema*, and *Monophyllaea*. We were refreshed by the cooler evening and met Cheaw Hon Ming at a local restaurant where we enjoyed a delicious meal and lots of lively gesneriad conversation.

Our last scheduled outing was even further south to Fraser's Hill in the Central Highlands. This area is also well-known as a tourist area, but is much smaller and less developed than the Cameron Highlands. Tuck-Lock had not been to this area for over twenty years and was eager to make another visit with the gesneriad-hungry visitors from the U.S. We were not disappointed.



Henckelia quinquevulnera



Henckelia malayana



Henckelia platypus

Fraser's Hill is actually seven hills accessible only by a one-way, gate-controlled access road. There are a few restaurants and hotels ranging from the very basic to almost five-star quality to fit every visitor's needs. There is even a World Wildlife office there which we visited and enjoyed reading about the local flora and fauna. One of the posters on the wall informed us that of the 87 species of *Didymocarpus* known, 94% were endemic to the Central Highlands of Malaysia.

The first gesneriad we spotted along the moss-covered, almost vertical roadside banks was *Henckelia curtisii*. There were many plants which illustrated the variability of this species. The leaves were deep velvety green, each with a broad central bar of either silver, white or lime green. Flower color varied as well: white, pale blue, deeper blue, lavender, and violet.

During our drive and then trail-walk down to Jeriau Waterfall, we spotted several other gesneriads including *Henckelia malayana* (very similar to *H. albomarginata* which we thought at the time it was), an unidentified species of *Aeschynanthus* not in bloom, and *Henckelia platypus* with its apple-green, large oblanceolate leaves and large white flowers with yellow guides. Later that day we saw small colonies of *Henckelia hirta*, another white-flowered species. Our most spectacular find, however, was a single plant of *Henckelia quinquevulnera* with three gorgeous open flowers. The large white corollas were contrasted by a 1/2" purple band at the outer edge with two deep gold guides and a yellow patch on the base of the tube with faint lines. What an exciting find at the last forest we were to visit during our short stay!

In those seven days we saw 25 species of gesneriads in 10 genera; and, as Maryjane said, we only visited a very small part of Malaysia. Someday in the not-too-distant future I hope to return for at least another seven days (or maybe weeks!) to see more of this gesneriad-rich part of the Old World.

Gesneriads, The Internet and You

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As I write this, the AGGS Annual Convention in Tampa is still several months away; however, when this gets published, the convention will be an exciting recent memory. I'll go out on a limb and say I enjoyed meeting and chatting with many of you. Well, okay, it's not much of a limb! I know we all will have (had) fun! Watch for lots of convention photos online soon.

As many of you know, it is possible to pay your AGGS membership dues online using our secure web server. Additionally you can now also pay or renew dues for GHA and pay for the Judges Newsletter online. Using the secure online form saves time and money. Don't let your membership lapse.

I hope you are regularly visiting the Members' Corner at <http://www.aggs.org/members_area/>. This is where members can post pictures of new and interesting plants they are growing or plants they need help identifying. Write me at <webmaster@aggs.org> if you want to post something there.

Here are some recent excerpts from the "Gesneriad Message Corner" posted on the AGGS web site.

— In the Hybridizing forum **Dan Tomso** started a discussion about gloxinia hybridizing. "I'm contemplating some *Gloxinia* × *Gloxinia* hybrids. Is anybody actively working with this genus right now? I'd love to get cultural tips and details on their hybridization efforts. In particular, has anyone hybridized *G. lindeniana* and determined whether the leaf patterning transmits well?"

Daniel replied first. "I have *G. sylvatica* that I've had for about 10 years. In fact, the seed I grew it from was about 10 years old, too. I grow mine in a hanging basket with a mix of 1 part peat, 1 part perlite, 1 part vermiculite, and 1 part that deep black top soil you find at garden centers. It gets full sun for about 3 hours a day and bright shade for the rest.

"I was unable to get seed from it for about 8 years. I could never find a flower with pollen. Turned out that my plant released its pollen at night! Since then, I've not had a problem. I haven't had any other *Gloxinia* species so I've not done any actual hybridizing."

Next up was **Clay Anderson**. "I have not heard of any current hybridization going on in the genus *Gloxinia*. There are some older hybrids, such as 'Chic', 'Arion', 'Medusa' and 'Medea'. The only one I'm aware of which lists *G. lindeniana* as a parent is *G. 'Turan'* by Frances Batcheller, which is *G. sylvatica* × *G. lindeniana*, described as having olive-green leaves with bright green veins."

AGGS President **Jon Dixon** replied. "Clay, that was interesting about *G. 'Turan'*. I've never heard of it, and I would guess it's extinct. It would be worthwhile to repeat this cross. In addition to Frances, Patrick Worley has made *Gloxinia* crosses as well as intergeneric crosses with *Gloxinia*."

Former AGGS Seed Fund Chair **Maryjane Evans** had some experience to share as well. "I never thought I'd be able to make a post about hybridizing. Hybridizing is not a goal for me but rather a fallback activity: "If you can't self 'em, cross 'em". I have tried for several years to self *Gloxinia sarmen-tiana*, a very beautiful blue/purple flowered species with campanulate-shaped corollas. I never had any success, so when the plant was in flower last year, I crossed it with *G. nematanthodes*, an orange/red flowered species with pouched corollas. The cross produced very few seeds, in contrast with the usual thousands of seeds from a *G. nematanthodes* capsule. I sowed ten seeds and six of them germinated. They were transplanted to a community pot and then to individual pots. The largest one is about 3" high. What will the flowers of a red pouch-shaped seed parent and a blue campanulate pollen parent look like?... Stay tuned."

John Beaulieu also contributed to this discussion. "Interesting... I am not alone in having trouble pollinating *Gloxinia* (*G. lindeniana* to be exact). I have been trying for years to even self the plant. There must be some timing required to coordinate when the pollen is ready and when the flower is receptive to it. Perhaps even humidity is a factor, as is the case with *Episcia*. Does anyone out there know the answers?? I too, would like to see that great *G. lindeniana* foliage used in hybridizing!"

— And now to the General Gesneriads Forum. **Jess** asked a question about his gloxinia. "I was given a gloxinia last year and would appreciate any advice on keeping it alive. I don't know anything other than what the care label said..."water every other day, indirect light, average home temps, and remove old flowers, cutting the stem 1" above crown of plant". Today I noticed these brown, hard knobs attached to the underside of the leaves. There are even small new leaves sprouting from these knobs. The knobs seem to be attached to veins and have caused one of the leaves to fall off from the stem. And some tears in the leaves where they are attached, what are they? There are also a few dry, brown spots to some of the leaves. Should I trim away the dry bits, or just leave them alone? When should I expect some blooms on my gloxinia?"

Clay Anderson provided useful advice. "I would assume that this "gloxinia" is *Sinningia speciosa*. This plant requires high light to bloom. Indirect light probably won't do it. With luck, a sunny window might work. The brown knobs on the leaves are probably new tubers (bulbs) forming. I have seen this happen, especially if the leaf gets nicked somehow. If you want, you can pot these little tubers up and eventually get new plants. The brown spots are possibly due to insufficient humidity. It could also be that the leaves are just getting old and dying. I find florist gloxinias difficult to grow and bloom in average home conditions. If you like them, you might consider buying a plant in bloom and just throwing it away when it is done blooming. (I know, some people hate to throw away a plant, ever, but why keep a plant that doesn't match your growing conditions?). There are many other gesneriads (relatives of the African violet and florist gloxinia) which are easier to grow in the home, and I enthusiastically recommend that you try some."

— Gesneriads that undergo name changes cause much confusion. **Tim Wilhite** had this question. "I am desperately seeking a photo of *Alloplectus nummularia* but am having no luck on the web. I'm beginning to suspect that the name has been changed. Is it *Hypocyrtia*? Isn't this the goldfish plant my

grandmother grew? If anyone can direct me to a site with a photo of the plant and flower so I can show it to a client, I will be very appreciative."

CrossWords Editor **Dale Martens** provided the first answer. "I wonder if it's *Neomortonia nummularia*? Ron's site <<http://home.pathcom.com/>> doesn't have a photo of it, but a back issue of THE GLOXINIAN should. I won Best Species with this species at the 1995 AGGS Convention. It has tiny crimson blossoms rather like a *Nematanthus*. If you want me to search old GLOXINIANS for a photo, I could jpeg you the photo if you write me personally giving me your e-mail address."

Clay Anderson also replied. (Clay, we appreciate your many helpful replies!) "The plant now known as *Neomortonia nummularia* was formerly known as *Hypocyrtia nummularia* and *Alloplectus nummularius*. There are pictures in THE GLOXINIAN Vol. 46, No. 2, p. 29 and Vol. 38, No. 3, p. 18. The flowers are a bright magenta with a forward-directed pouch. They look a bit like the "goldfish plant" (*Nematanthus*, formerly *Hypocyrtia*), but they aren't particularly closely related. There is a picture online at <http://aggs.org/gallery/neomortonia.html> but the picture is so dark it is difficult to see."

Jon Dixon also helped out. "*Neomortonia nummularia* does look a lot like the traditional goldfish plants of the genus *Nematanthus*. It has been in cultivation although not commonly grown for at least 30 years. However, the plants commonly grown as "Goldfish Plants" are the *Nematanthus* species and hybrids. The two most commonly found, both with orange flowers, are the hybrid 'Cheerio' and the species *gregarius* (*Hypocyrtia glabra*). Other varieties come with yellow, red, or spotted flowers. *Nematanthus* tend to be compact-growing basket plants with glossy, waxy leaves and flowers. They bloom over a long season. *Neomortonia* is a cascading plant, which blooms heavily for a short period in summer. *Neomortonia* is considered more difficult to grow because it is less tolerant of high temperatures and requires a cool dry rest in winter."

Laura Johnson shared her experiences with this plant as well. "Blooms in summer?? Yikes, now you've jinxed me and one of my fellow Michigan growers. His show-quality, lush basket plant was covered with well over a hundred blossoms (probably more) the first week of February this year. My plant had one blossom, which shriveled after two days. (Hey, it bloomed, didn't it??) I just about fell over when I saw his plant. I was incredibly envious!

"Although my eight-year-old plant doesn't bloom much (less than a yucca!) I do find that as long as it stays in a closed container (high humidity), it doesn't seem to enter the usual winter rest. It continues to grow through the year, although it seems to be a slow grower in general."

Jon Dixon wrote back. "I don't know the whole range of this genus; but I do know it is found in Ecuador, whereas *Nematanthus* is found in Brazil. An interesting story: On a GRF collecting trip, Michael Riley found what looked like some sort of epiphytic sinningia—a string of little tubers hanging in a tree, with thread-like stems attaching them to each other. When he showed the remarkable plant to Hans Wiehler, Hans said "Oh, that's just *Neomortonia nummularia*". While I don't achieve this degree of dormancy

with my plants, I have observed that when I fail to water for a long time in the winter, the nodes swell up and the stems become very thin. When broken up and planted in the Spring, these nodes will readily sprout. My theory is that Ecuadorean plants are adapted to variable drought, but they do not experience extremes of temperature as are found further from the equator. I have rotted the roots of this species when kept too wet during winter. However, when it is happy, it puts on an incredible show.

"I guess, my comment on it being a summer bloomer falls under the same caveat as that of the dormancy. Without the definite changes in day length and temperature, plants like *N. nummularia* must use other triggers for dormancy. I suspect humidity as much as actual soil moisture is the trigger."

— **Greta Otwell** also had a question involving plant names. "I need some help finding a plant commonly known as a "Nut Orchid". I have been told that it is an achimenes and gesneriad. I'll be honest—these names mean nothing to me. If anyone could give me *any* information on this plant, I would greatly appreciate it."

Laura, who also frequently helps out with answers, replied. "Achimenes require a moisture-retentive but well-draining soil, bright light and warm temperatures. They mustn't be allowed to dry out too much during active growth, as this will usually trigger dormancy too early.

"They are seasonal growers. They begin growth in spring, grow and bloom during the summer months, and go dormant in fall. They grow from rhizomes, which look somewhat like scaly, thickened roots. Each rhizome produces one plant, which in turn will produce several rhizomes during the growing season. Once the plant has dried up and gone dormant, you can unpot the soil ball and pick out the new rhizomes.

"There are different ways to store the rhizomes over the winter months. The main idea is to keep the rhizomes away from moisture or temperature extremes (don't let them freeze, especially) but you also don't want them to dry out and shrivel up. In early spring, they will show skinny green sprouts from one end of the rhizome. Pot them about one-inch deep, and begin giving them light and water again. Achimenes can also be grown from seed. You can find out a bit more at <<http://home.pathcom.com/genach.htm>>."

Botanical Review Chair **John Boggan** replied as well. "As Laura notes, "Nut Orchid" is more properly known by its genus name, *Achimenes*. But you will usually find it listed in catalogs or sold in nurseries and garden centers under any number of other fanciful names. "Magic Flowers" is one of the most common, but also "Widow's Tears", "Hot Water Plants", and "Cupid's Bower". They are commonly grown as bedding or basket plants outdoors, especially in the South, so you may find the rhizomes being sold at nurseries and garden centers with tender "bulbs" (e.g., caladiums, cannas, gladiolus, etc.) in the spring, or listed with them in catalogs."

— I'll also mention this post that was made recently. A visitor who probably did a search for information about goldfish, came across the AGGS site. (Nematanthus and columnea both are sometimes called "goldfish plants".)

"I had 5 fish. A Black Moor, a Bubble Head, a Puffer cheek, a long tailed (fantailed?) White (almost see-through), and an Algae eater. My Bubble Head hangs around a lot on the filter. Puffer Cheek's right cheek was uninflated, and my Black Moor was growing some white (fungus?) thing on

its back and eyes and is changing colors. He is changing gold (color of rocks). My White and Algae eater are fine.

"Today though I woke up and found Bubble Head dead. And Puffer Cheek was dead and entangled in sea weed. My Black Moor is alive and still growing that fungus. White and Algae are fine. So now I only have one thing to worry about—my Black Moor. Is there any way to treat this fungus? I *must* know. And *fast*. If anyone will even suggest anything I would be very thankful."

And to show just how helpful gesneriad people can be, there were four posts from gesneriad growers giving helpful information on this subject!

We don't grow many plants right now in the Turley household, but I sure enjoy living vicariously through these posts. Keep those gesneriad posts and answers coming!

Feel free to write me at <webmaster@aggs.org> with questions and comments about the AGGS web site.



Goldfish
?



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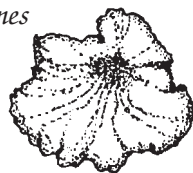
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New Chiritas from Vietnam

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In June 1998, a colleague returned to the Smithsonian Institution from Scotland with four Vietnamese species of *Chirita* that were growing in the Royal Botanic Garden Edinburgh (RBGE). I have already written about one of these species, *C. tamiana* (THE GLOXINIAN, Fourth Quarter 1999, 49(4): 21-23). This plant was originally introduced as *C. eberhardtii*, but that identification proved to be incorrect and the plant has since been named as a new species by B.L. Burtt ("A New Rosulate Chirita from Vietnam", THE GLOXINIAN, Fourth Quarter 1999, 49(4): 20). In the two years since its introduction, *C. tamiana* has proven to be immensely popular. Although tentatively classified with the rosette species in section *Gibbosaccus*, it is not closely related to any other species of that section now in cultivation, and attempted crosses with other species have so far failed.

In addition to seeds of *Chirita tamiana*, Mr. Burtt sent leaf cuttings of three small rosette species. These plants are clearly members of the rosette group of *Chirita*, section *Gibbosaccus*. There are several members of this group in northern Vietnam but they are poorly known and until now none has been in cultivation. Their relationship to the Chinese species is unclear. Since 1998 we have been growing and propagating these three new Vietnamese species at the Smithsonian Institution, and leaf cuttings were shared with Maryjane Evans as insurance (and in hopes of producing seeds for the AGGS Seed Fund!). All three are small-growing plants—one of them a true miniature—that will be of great interest to chirita lovers. Two of these new



Collection of Chiritas from Vietnam exhibited by Maryjane Evans

collections are still unidentified and may be new species. All three seem to be closely related to each other but differ from the Chinese species in several interesting ways. We have no notes on their natural habitat but they respond well to basic chirita culture and should be treated like any other rosette chirita. They are slow to propagate from leaf cuttings, and we have not yet produced seeds from the plants, but they are gradually being distributed.

Chirita gemella (USBRG 98-081) was originally described by D. Wood in 1972 based on a single herbarium specimen from an unknown locality in northern Vietnam. Live material was recently collected in the Hong Quang Special Region in northern Vietnam by L. Averyanov and was grown at RBGE under their accession number 19941913. The plant grows in a miniature rosette to 3" (7.5 cm) across with spoon-shaped, thick, fleshy, dark green leaves marked with lighter veins and covered with long, sparse hairs. The small pale-lavender flowers are produced one (rarely two) per axil on very long, slender, bractless peduncles that hold the flowers well away from the plant. New plantlets are sometimes produced on long stolons, a rather unusual characteristic in *Chirita*. The name "gemella" means "twinned" and probably refers to this stoloniferous habit.

When I started growing *Chirita gemella*, I thought the original description of the species as stoloniferous might be erroneous as plants grown at the Smithsonian have never produced stolons under any conditions. However, about a year after sharing leaf cuttings with Maryjane, she reported that her plants were indeed producing plantlets at the tips of long leafless stolons. Plants she exhibited in Nashville and Washington, DC unmistakably exhibited the stoloniferous habit. After comparing cultural notes, we still don't know why stolons are sometimes produced and sometimes not. Propagation from leaf cuttings is very slow, as each leaf usually produces only one new plant. Fortunately, it is easily propagated by stolons. *Chirita gemella* is a very choice new introduction and has already aroused great interest.



Chirita gemella grown by Maryjane Evans



Chirita sp. USBRG 98-083 grown and photographed by John Boggan

Chirita sp. USBRG 98-083 was collected in the Hong Quang Special Region in northern Vietnam by L. Averyanov and grown at RBGE under their accession number 19941912. The plant has distinctly hairy, long-elliptic leaves about 3-4" (7.5-10 cm) long and 1" (2.5 cm) wide, without distinct petioles. This plant has produced numerous and vigorous stolons at the Smithsonian but not for Maryjane. Again, we cannot say what triggers stolon production. A single crown will grow to about 7" (17.5 cm) across but, if the stolons are allowed to grow, can form a much larger cluster of plants. The small purple flowers are borne singly on long, slender, reddish-purple peduncles that bear two minute bracts of the same color. The flowers are similar to those of *C. gemella* but are slightly larger. Although it is not terribly floriferous, the neat habit and appealingly furry leaves of this species make it unlike any of the Chinese species now in cultivation.

Chirita sp. USBRG 98-082 is the least known of the new Vietnamese species. The plant was collected in northern Vietnam (exact locality unknown) by A. Takhtajan and N. Aruzytov and has been grown at RBGE with their accession number 19941915. It has long, narrow, minutely hairy leaves without distinct petioles, about 4-5" (10-12.5 cm) long and 3/4-1" (2-2.5 cm) wide. This unidentified species is vegetatively somewhat similar to the Chinese species *C. longgangensis*. It has not produced stolons so far, but given its similarity to *Chirita* sp. 98-083—and the fact that the very different *C. gemella* also produces stolons—it would not be too surprising if it did. Plants in bud have four or more flowers per peduncle but have not yet bloomed.

Although these new species are neither floriferous nor large-flowered, they will be fine additions to any chirita collection. I have not yet tried any hybridizing with this group of species. However, crosses with each other or with some of the Chinese species might produce a series of interesting small-growing hybrids. In particular, their stoloniferous habit might result in hybrids that are faster and easier to propagate.



Flower of *Chirita gemella*

ADDENDUM: John Boggan has just reported (on Gesneriphiles) that *Chirita* sp. USBRG 98-082 has been identified as *Chirita balansae*.

How to Grow Chiritas

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The popularity of the rosette chiritas is growing by leaps and bounds, perhaps because they are so easy to grow and are similar in growth habit and cultural requirements to their better-known cousins, the African violet (genus *Saintpaulia*). The most common chirita in cultivation is *Chirita sinensis*, but many other species and hybrids have recently been introduced. Some chiritas are annuals or shrubby perennials, but these are less commonly grown and have different cultural requirements. The cultural tips described here are for the perennial rosette chiritas, *C. sinensis* and its relatives. If you can grow African violets, you can grow chiritas.

Soil — Chiritas require a potting mix that is neither heavy nor wet. They can be grown in the same potting mix as African violets. Adding extra perlite will help keep the soil well aerated and well drained, especially if you grow plants on mats or wicks, or tend to overwater your plants. Extra lime in the form of 1-2 tablespoons of powdered, pelleted, or chipped dolomitic lime per quart of potting mix is helpful, especially if you live in a region with soft water. If you live in an area with hard tap water, using this to water the plants will supply most of the lime they need. Believe it or not, these are plants that will appreciate a crusty lime buildup!

Water — During the growing season, chiritas should be kept evenly moist, but never wet. This requirement goes hand-in-hand with having a well-drained and well-aerated soil. Chiritas are quite tolerant of drying out, but may rot if kept too wet. They can be grown successfully on wicks, but if you use this method, you must use an especially light and porous soil. Wicking may promote large, lush growth—a disadvantage if you are trying to grow compact plants.

Fertilizer — Chiritas are not heavy feeders. Use the same fertilizers you use for your other gesneriads but mixed at about half the usual strength. I find that a bit of bone meal in the soil (about 1 tablespoon to each quart of potting mix) helps produce strong, healthy plants. Some growers claim that fertilizers with a high urea content may produce an unsightly orange "crud" on the plants, as is sometimes the case with saintpaulias and streptocarpus. This is not usually a problem if you fertilize with a light touch.

Light — Light requirements are nearly the same as for African violets. Bright indirect light is perfect. Chiritas can be grown under fluorescent lights, but they are also excellent choices for windowsill growing. They do not require intense light, and direct mid-day sun will bleach or scorch the leaves. A window that gets early morning or late afternoon sun, or even a bright north window, is perfect. The plants should be turned occasionally to encourage symmetrical growth. When they bloom, all the flowers will turn towards the light so turn the pot more frequently.

Temperature and humidity — Chiritas will do well in the same temperature and humidity range that most people find comfortable. They do not like high temperatures but most will tolerate cool temperatures, down to 40°F with some of the hardier species taking freezing temperatures for short periods in the winter. Try that with an African violet!

Repotting — Chiritas do not need frequent repotting. They often grow in crevices in cliffs and on rocky hillsides in the wild where they do not get lots of root room. Repotting once a year, in the spring as they begin to put out new growth, should suffice. In fact, chiritas can be grown in the same pot and same soil without repotting for two and even three years without any harm to the plant. A well-grown chirita will often look underpotted, and keeping them potbound will encourage flowering and more compact growth. When repotting, remove the outermost one or two pairs or whorls of leaves to reduce stress on the plant.

Propagation — The species can be grown from seed, but all chiritas can be grown very easily from leaf cuttings, exactly like saintpaulias. Take a leaf from one of the middle rows in the spring or early summer, while the plant is actively growing, and root it in your normal soil mix in a plastic bag. Leaf cuttings will usually root quickly, but production of new plants can be slow. Leaves planted in late summer or fall may not produce new plants until the spring. Be patient; new plants may take up to a year to bloom. Some chiritas produce suckers that can be removed and rooted, producing a blooming-sized plant in a much shorter time. Chirita hybrids will not come true from seed, and seedlings should not be labeled with the cultivar name of the parent. Most of the hybrids are sterile and must be propagated by leaf cuttings or suckers anyway.

Winter care — Most of the rosette chiritas have a semi-dormant period in winter when they will grow more slowly and stop blooming. This is especially true of plants grown on a windowsill where they are exposed to seasonal changes in light and temperature. They should be watered a bit less during the winter and not fertilized at all. Seasonal changes in day length and temperature promote heavy spring blooming in several species. They will reward you with a burst of bloom, and some of them will continue to bloom throughout the summer and into the fall. Plants grown under artificial lights may grow and bloom year round, but may not bloom as heavily at one time.

Common problems — The rosette chiritas have essentially the same problems and pests as saintpaulias. The most destructive pests are cyclamen and broad mites which cause tight centers and distorted new growth. High temperatures and/or too much light will sometimes cause the leaves to take on a bronzed coloration, but this is harmless. Some growers claim this can also be caused by overfertilizing. Failure to bloom is often an indication that a plant is still immature but may also be due to insufficient light. Some species and cultivars naturally produce long necks or even "trunks" as they lose their lower leaves; this can be covered up by potting the plant deeper in the pot, or it can be emphasized for a sculptural effect.

Single-crowned or multi-crowned? To a certain extent, this depends on the grower's preference. Many chiritas sucker naturally and form tight bunches of leaves. Thinning out these suckers (save them for propagation!) will often produce a better-looking plant. In my own opinion, the narrow-leaved species and cultivars look better grown multi-crowned than those with broader leaves. Some species also produce long trunk-like stems with branches, and these can be sculpted for a bonsai-like effect.

Best Bets for Beginners — Nearly all of the rosette chiritas are easy to grow. In a recent survey of the members of the Gesneriphiles internet list, the following were rated highly:

***C. linearifolia*:** An old favorite with long, very narrow leaves, this species generally produces a long branched "trunk" and is often exhibited as a bonsai-like specimen. The small pink flowers are produced in a flush in the spring.

***C. sinensis* 'Hisako':** Resulting from a cross between two different forms of the species, this cultivar has beautiful dark green leaves heavily marked with silver. It forms a perfectly symmetrical rosette with very little attention. Although sometimes reluctant to bloom, it makes an absolutely stunning foliage plant. A well-grown plant is a show-stopper even without flowers.

***C. sp.* 'New York':** Grown for many years as *C. pteropoda* and sometimes listed under that name in catalogs, this still-unidentified species with glossy leaves can grow large but is extremely floriferous, essentially everblooming. The pale yellow flowers are unlike those of any other chirita. It seems to prefer warmer temperatures than many of the other rosette chiritas.

***C. tamiana*:** Coming from northern Vietnam, this recent introduction was voted favorite species, easiest to grow, and most recommended for beginners. *Chirita tamiana* is a true miniature with foliage like an African violet but dainty white flowers marked with purple that look more like those of a streptocarpus. It is fast and easy to grow from seed or from leaf cuttings, in continuous bloom, and sure to rival *Sinningia pusilla* 'White Sprite' as the most popular miniature gesneriad.

***C.* 'Aiko':** Without doubt one of the best *Chirita* hybrids so far, 'Aiko' has bright yellow flowers like *C. eburnea* but is much easier to bloom and is more floriferous.

***C.* 'Kazu':** Only recently named, but long distributed as the unnamed cross *Chirita "latifolia × linearifolia"*, 'Kazu' is a compact, narrow-leaved plant that tends to sucker. It is incredibly floriferous with dainty pinkish-purple flowers.



Chiritas exhibited at the Frelinghuysen Arboretum Chapter Show in October 1999:
 (clockwise) *Chirita sinensis* 'Hisako', *C.* 'Diane Marie', *C. longgangensis*,
C. gemella, *C. tamiana*, *C. sclerophylla* (photo by Jeanne Katzenstein)
 Chiritas grown by Maryjane Evans, Barbara Perrott, Betsy Sherwin, Betty Vriens.

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Correction — TG Vol. 50, No. 2

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