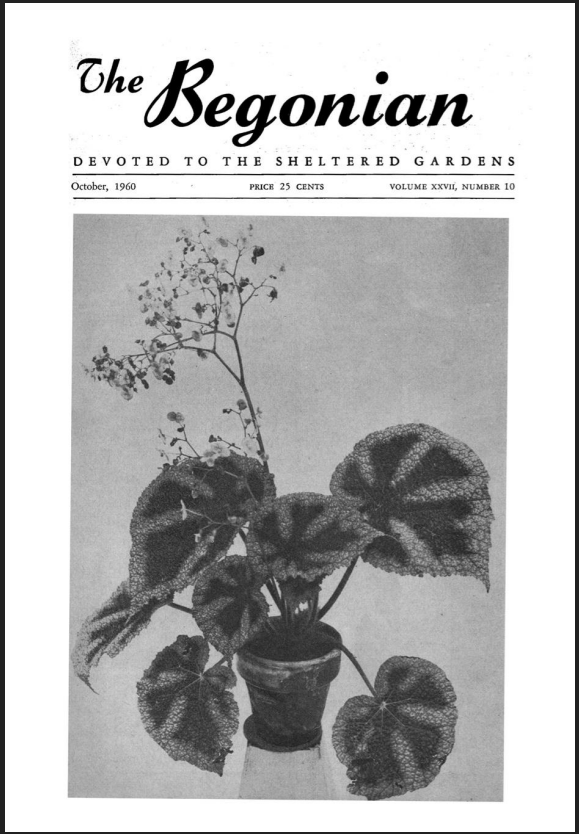
Begonia segregata

Latin, segregatus, -a, -um: set apart, separated from the group

This begonia was described in: *The Begonian*, October 1960, p. 225.

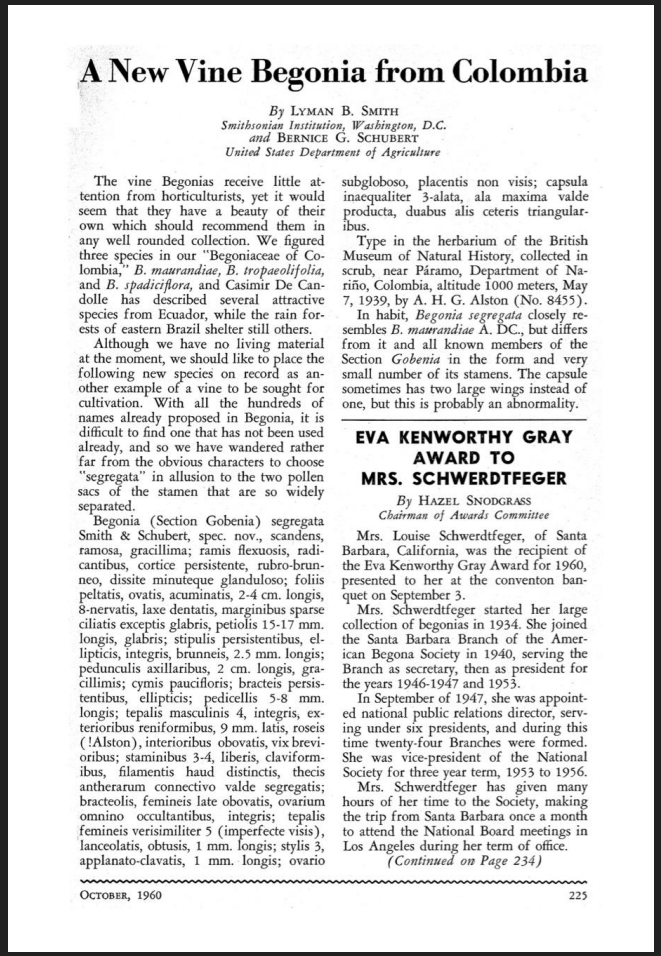


"A New Vine Begonia from Colombia", by Lyman B. Smith and Bernice G. Schubert

Smith was with the Smithsonian Institution at the time

Schubert was with the U. S. Department of Agriculture

(Note: *The Begonian* was 25 cents in 1960!)



A New Vine Begonia from Colombia

By LYMAN B. SMITH
Smithsonian Institution, Washington, D.C.
and BERNICE G. SCHUBERT
United States Department of Agriculture

The vine Begonias receive little attention from horticulturists, yet it would seem that they have a beauty of their own which should recommend them in any well rounded collection. We figured three species in our "Begoniaceae of Colombia," *B. maurandiae, B. tropaeolifolia,* and *B. spadiciflora,* and Casimir De Candolle has described several attractive species from Ecuador, while the rain forests of eastern Brazil shelter still others.

Although we have no living material at the moment, we should like to place the following new species on record as another example of a vine to be sought for cultivation. With all the hundreds of names already proposed in Begonia, it is difficult to find one that has not been used already, and so we have wandered rather far from the obvious characters to choose "segregata" in allusion to the two pollen sacs of the stamen that are so widely separated.

Begonia (Section Gobenia) segregata Smith & Schubert, spec. nov., scandens, ramosa, gracillima; ramis flexuosis, radicantibus, cortice persistente, rubro-brunneo, dissite minuteque glanduloso; foliis peltatis, ovatis, acuminatis, 2-4 cm. longis, 8-nervatis, laxe dentatis, marginibus sparse ciliatis exceptis glabris, petiolis 15-17 mm. longis, glabris; stipulis persistentibus, ellipticis, integris, brunneis, 2.5 mm. longis; pedunculis axillaribus, 2 cm. longis, gracillimis; cymis paucifloris; bracteis persistentibus, ellipticis; pedicellis 5-8 mm. longis; tepalis masculinis 4, integris, exterioribus reniformibus, 9 mm. latis, roseis (!Alston), interioribus obovatis, vix brevioribus; staminibus 3-4, liberis, claviformibus, filamentis haud distinctis, thecis antherarum connectivo valde segregatis; bracteolis, femineis late obovatis, ovarium omnino occultantibus, integris; tepalis femineis verisimiliter 5 (imperfecte visis), lanceolatis, obtusis, 1 mm. longis; stylis 3, applanato-clavatis, 1 mm. longis; ovario subgloboso, placentis non visis; capsula inaequaliter 3-alata, ala maxima valde producta, duabus alis ceteris triangularibus.

Type in the herbarium of the British Museum of Natural History, collected in scrub, near Páramo, Department of Nariño, Colombia, altitude 1000 meters, May 7, 1939, by A. H. G. Alston (No. 8455).

In habit, *Begonia segregata* closely resembles *B. maurandiae* A. DC., but differs from it and all known members of the Section *Gobenia* in the form and very small number of its stamens. The capsule sometimes has two large wings instead of one, but this is probably an abnormality.

EVA KENWORTHY GRAY AWARD TO MRS. SCHWERDTFEGER

By HAZEL SNODGRASS
Chairman of Awards Committee

Mrs. Louise Schwerdtfeger, of Santa Barbara, California, was the recipient of the Eva Kenworthy Gray Award for 1960, presented to her at the conventon banquet on September 3.

Mrs. Schwerdtfeger started her large collection of begonias in 1934. She joined the Santa Barbara Branch of the American Begona Society in 1940, serving the Branch as secretary, then as president for the years 1946-1947 and 1953.

In September of 1947, she was appointed national public relations director, serving under six presidents, and during this time twenty-four Branches were formed. She was vice-president of the National Society for three year term, 1953 to 1956.

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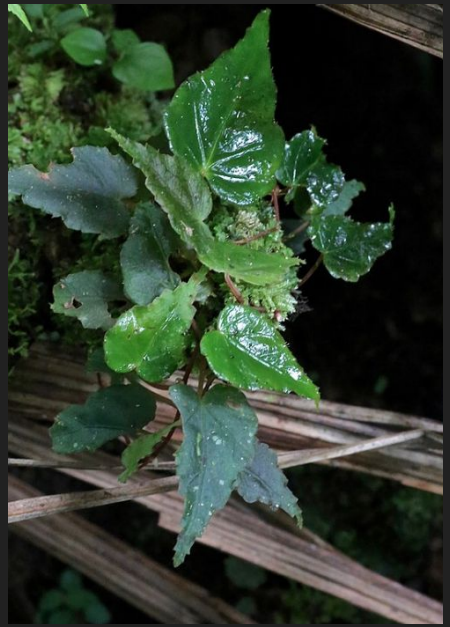
(Continued on Page 234)

"....it is difficult to find [a name] one that has not been used already, and so we wandered rather far from the obvious characters to choose "segregata" in allusion to the two pollen sacs of the stamen that are so widely separated."

"The vine Begonias receive little attention from horticulturists, yet it would seem that they have a beauty of their own which should recommend them in any well rounded collection."

"Although we have no living material at the moment, we should like to place the following new species on record as another example of a vine to be sought for cultivation."

Smith & Schubert in 1946 had written “Begoniaceae of Colombia” where they described many begonias, including B. maurandiae (A. de Candille, Ann, Sci. nat., Bot. ser. 4, 1859), B. tropaeolifolia (A DC.) and introduced B. spadiciflora (Smith & Schubert). These three and B. segregata belong to section Gobenia.



Dinesh Sembukuttiarachchi

Image source: Planet Begonia 2/4/2018

Section Gobenia

“Homogeneous section, set apart from other sections by the flexuous, climbing stems with peltate leaves, female flowers with 5-7 very small tepals and 3 or 4 celled ovaries which are covered by the bracteoles and develop into capsules with very unequal wings (with some exceptions.)

The inflorescences are axillary, 3- to many-flowered dichasia which in four (or more) species are borne on special branches on the axils of leaves.”

From: Doorenbos, J.,Sosef, M.S.M., de Wilde, J.J.F.E. (1998). The sections of Begonia including descriptions, keys and species lists (Studies in Begoniaceae VI). Wageningen Agricultural University Papers 98-2; Studies in Begoniaceae 6 (1998) 266 pp. ISBN 90-5782-007-2. 98.

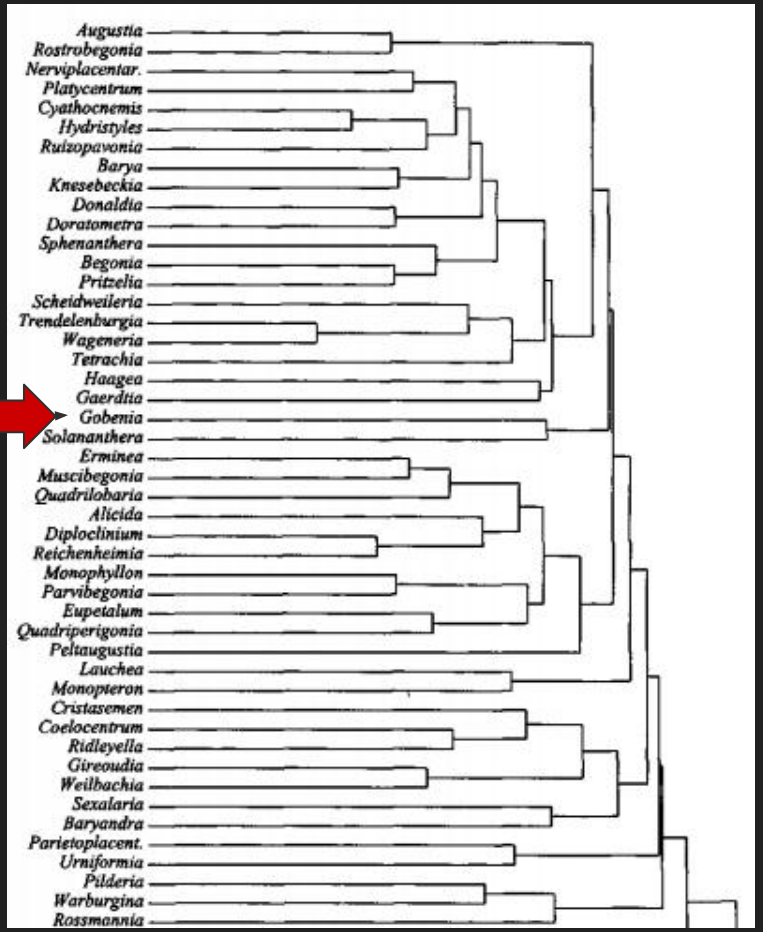
Notes for next slide:

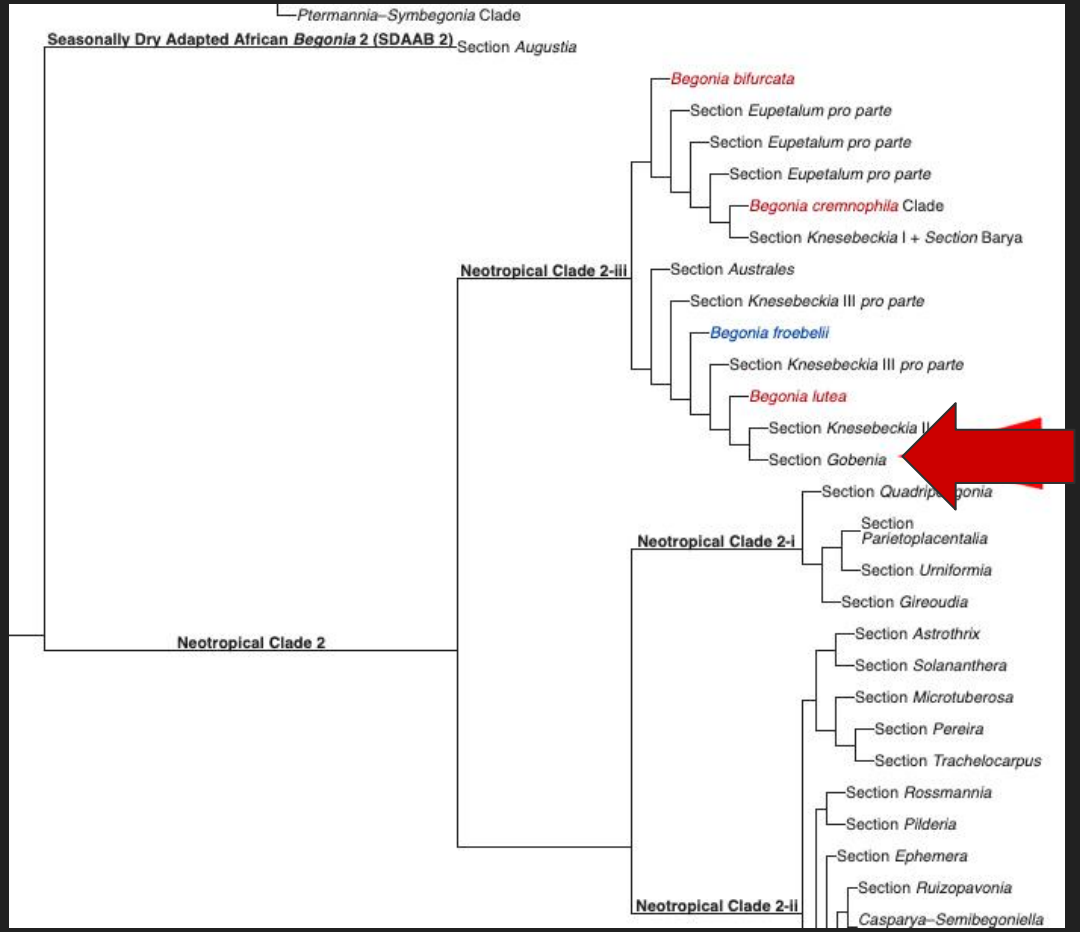
On the left is a section of a phenogram of all Begonia sections, found in the paper by Doorhenbos, et al. The arrow shows where section Gobenia appears.

On the right is a section of a phylogenetic tree showing the relationships between different sections of Begonia found in a more recent paper published in **Taxon** 67 (2), April, 2018: 267-323, titled “Dividing and conquering the fastest-growing genus: Towards a natural sectional classification of the mega-diverse genus Begonia (Begoniaceae)”. It was written by 25 authors, including, Mark Tebbitt, Ruth Kiew. These authors have been taking advantage of molecular phylogenetic research for their new classification criteria. They recognized 70 sections that included 5 new sections, reinstated 4, and synonymised 5, out of the 1,870 begonia species-- the sixth-largest genus of flowering plants! This endeavor may be the future of classifying all begonias!

Doorhenbos, et al, paper: https://library.wur.nl/WebQuery/wurpubs/fulltext/282968

Taxon article: https://onlinelibrary.wiley.com/doi/10.12705/672.3


Augustia
Rostrobegonia
Nerviplacentar.
Platycentrum
Cyathocnemis
Hydristyles
Ruizopavonia
Barya
Knesebeckia
Donaldia
Doratometra
Sphenanthera
Begonia
Pritzelia
Scheidweileria
Trendelenburgia
Wageneria
Tetrachia
Haagea
Gaerdtia
Gobenia
Solananthera
Erminea
Muscibegonia
Quadrilobaria
Alicida
Diploclinium
Reichenheimia
Monophyllon
Parvibegonia
Eupetalum
Quadriperigonia
Peltaugustia
Lauchea
Monopteron
Cristasemen
Coelocentrum
Ridleyella
Gireoudia
Weilbachia
Sexalaria
Baryandra
Parietoplacent.
Urniformia
Pilderia
Warburgina
Rossmannia


Ptermannia–Symbegonia Clade
Seasonally Dry Adapted African Begonia 2 (SDAAB 2)
Section Augustia
Begonia bifurcata
Section Eupetalum pro parte
Section Eupetalum pro parte
Section Eupetalum pro parte
Begonia cremnophila Clade
Section Knesebeckia I + Section Barya
Neotropical Clade 2-iii
Section Australes
Section Knesebeckia III pro parte
Begonia froebelii
Section Knesebeckia III pro parte
Begonia lutea
Section Knesebeckia II
Section Gobenia
Section Quadriperigonia
Neotropical Clade 2-i
Section Parietoplacentalia
Section Urniformia
Section Gireoudia
Neotropical Clade 2
Section Astrothrix
Section Solananthera
Section Microtuberosa
Section Pereira
Section Trachelocarpus
Section Rossmannia
Section Pilderia
Section Ephemera
Section Ruizopavonia
Neotropical Clade 2-ii
Casparya–Semibegoniella

Other characteristics of Section Gobenia species:

Broadly triangular anthers in some Gobenia

Ovary of fruit - Number of wings (3 is common) some Gobenia species have 4

Plants lianescent, Stem woody at least at base; bracts persistent (during flowering); anthers obovoid or broadly triangular; dehiscent with longitudinal slits; styles 2-lobed, persistent in fruit; ovules present between placental branches

Twelve species out of a total of 14 are peltate

Seeds about 2.2 times as long as broad

14 Species currently classified under the Gobenia Section, plus one doubtful:

B. dodsonii L.B. Smith & Wasshausen, Ecuador (Pichincha)
B. geminiflora L.B. Smith & Wasshausen, Ecuador (Pichincha)
B. hitchcockii Irmscher, Ecuador (Tungurahua)
B. maurandiae A. DC, Colombia, Ecuador
B. pululahuana C. DC, Ecuador (Napo, Pichincha)
B. rubrotincta L.B.Smith & Schubert, Peru (Amazonas)
B. secunda L.B. Smith & Wasshausen, Ecuador (Pichincha)
B. segregata L.B. Smith & Schubert, Colombia (Nariño), Ecuador (Carchi)
B. sodiroi C. DC, Ecuador (4 prov.)
B. spadiciflora L.B. Smith & Schubert, Colombia (Antioquia)
B. tropaeolifolia A. DC, Colombia (Cundinamarca), Ecuador
B. truncicola Sod. ex C. DC, Ecuador (Carchi, Pichincha)
B. wurdackii L.B. Smith & Schubert, Peru (Amazonas)
B. ynesiae L.B. Smith & Wasshausen Ecuador (Carchi, Pichincha)
Species whose membership is doubtful: B. grandibracteolata Irmscher., Peru

Most all of the section Gobenia begonias seem to come from southwest Colombia, northern Ecuador, and a few from Peru.

Ecuador’s Pichincha and Carchi Departments are home to quite a few Gobenias.

Smith & Schubert state that Begonia segregata:

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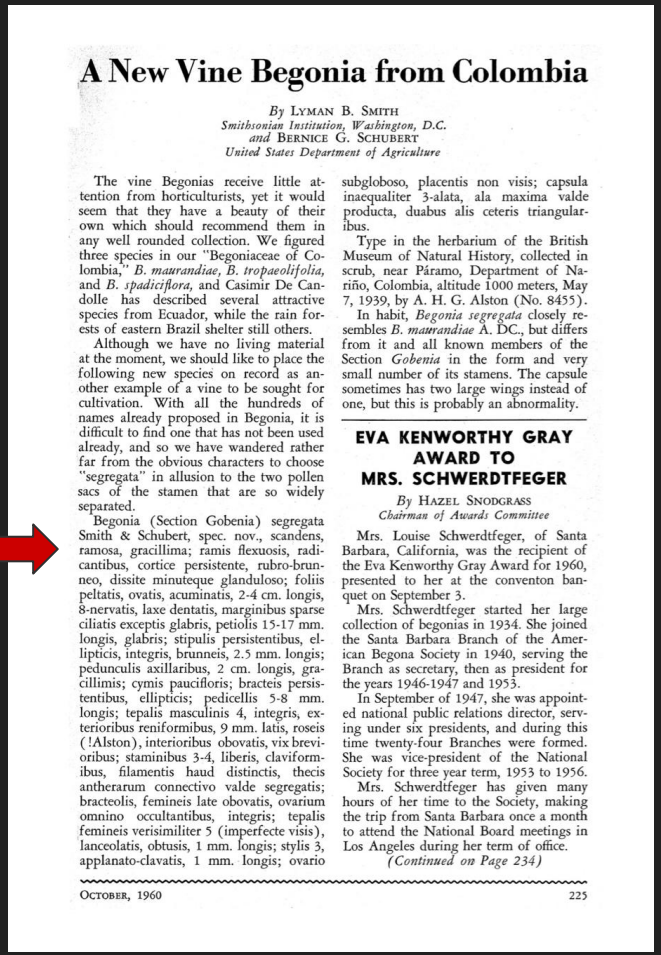
Later publications by Smith & Schubert also indicate this begonia grows in the Dept. of Carchi, Ecuador, north of Quito which is in the Department of Pichincha.

Smith & Schubert's article introducing Begonia segregata in *The Begonian*, described the plant in botanical detail, in one non-stop paragraph that was all in Latin.

On the following slides I tried to translate each Latin section wherever I was able.

Any corrections welcome on my first attempt!



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(Continued on Page 234)

Begonia (Section Gobenia) segregata Smith & Schubert, spec. nov., (new species)
scandens, climbing ramosa, branched Gracillima; delicate

ramis Hexuosis, branches hexose
radicantibus, radicant - rooting from a node of a prostrate stem or from a leaf
cortice persistente, - bark or rind; root tissue between the epidermis and the stele - remaining attached after similar parts are normally dropped, after the function has been completed
rubro-brunneo, red-brown
dissite minuteque glanduloso; minute dispersed glands

foliis peltatis, leaves are shield shaped ovatis, ovate
acuminatis, acuminate- gradually tapering to a sharp point and forming concave sides along the tip
2-4 cm. longis, 2-4 cm (0.78 - 1.57 inch) long
8-nervatis, 8-nerved laxe dentatis, loosely toothed
marginibus sparse ciliatis exceptis glabris, leaf blade edge sparsely ciliated/hairs with hairless exceptions
petiolis 15-17 mm. longis, petiole (leaf stalk) 15-17mm (0.59- 0.67 inches) long glabris; smooth; hairless

(Begonia segregata description continued)

stipulis persistentibus, stipules remain attached after similar parts are normally dropped after function is completed

Ellipticis, in the shape of an ellipse
Integris, unchanged
brunneis, 2.5 mm. longis; brown, 2.5 mm (0.098 inch) long

pedunculis axillaribus, 2 cm. longis, peduncle (main stalk for entire inflorescence) is axillary (lateral) , 2 cm (0.787 inches) long
gracillimis; slender

cymis pauciHoris; cyme with the flowers (5-0)

bracteis persistentibus, bract (reduced leaf or leaf-like structure at the base of a flower or inflorescence) is persistent ellipticis; in the shape of an ellipse

pedicellis 5-8 mm. longis; individual flower stalk 5-8mm (0.197 - 0.315 inch) long

tepalis masculinis 4, integris; 4 male tepals (when calyx and corolla look alike and are petal-like) entire (undivided, notched, lobed,etc)

exterioribus reniformibus, 9 mm. latis, roseis (Alston), interioribus obovatis, vix brevioribus; outside pinkish, kidney-shaped, 9mm

staminibus 3-4, liberis, claviformibus, filamentis haud distinctis, thecis antherarum connectivo valde segregatis stamens 3-4, free from the tubular part, club shaped, filaments not distinct, the thecae of the anthers greatly separated;

(Additional descriptions detail flower characteristics)

bracteolis, femineis late obovatis, ovarium omnino occultantibus, integris; 2nd order bracts - bracteoles, female widely obovate, ovary completely hidden, entire

tepalis femineis verisimiliter 5 (imperfecte visis), lanceolatis, obtusis, 1 mm. longis; female tepals, probably 5 (not seen well), lance shaped, blunted, 1mm long

stylis 3, applanato-clavatis, 1 mm. longis; 3 styles (narrowed portion of the pistil connecting the stigma to the ovary), flat-club-shaped, 1mm long

ovario subgloboso, placentis non visis; ovary subglous, placenta not visible

capsula inaequaliter 3-alata, unequal capsule
ala maxima valde producta, wing flat part (formerly an axil, but not now employed in that sense) lateral petal, greatly stretched out (?)
duabus alis ceteris triangularibus. centered and triangular

My adventure with B. segregata

I bought my B. segregata February 7th, 2019 at the New Hampshire Orchid Show where the vendor Ecuagenera, from Ecuador, was selling all sorts of orchids, gesneriads, and this begonia.

It had been in sphagnum moss in a clear cellophane bag, and had lost a few leaves that seemed to have wilted in the humidity.

Note the apple green color of the tiny leaves in the next slide.

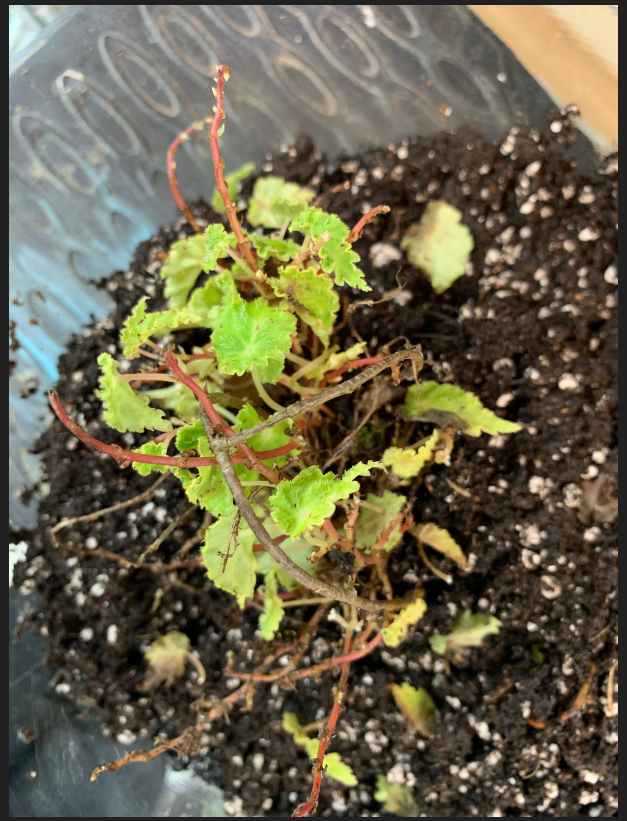
I transferred it to an enclosed glass terrarium/bubble with Pro-Mix HP.

It kept losing leaves and a few stems were dying. I thought the plant was going to die completely.

Only a few leaves persisted by February 20th.

But by February 26th, new red shoots were emerging with a few tiny new red leaves unfurling.

My adventure with B. segregata



February 8

February 20

February 26

More baby red leaves just kept appearing and kept getting bigger and bigger, surpassing the original leaves' sizes, but remaining dark red brown to almost dark grey in color.

March 5

March 12

On March 16th I noticed a flower bud. It got bigger and looked very healthy, and I could not wait for it to open so I could get additional information to identify this plant. Then March 30th the bud just dropped off before it opened. Nothing had changed, not the light, humidity, etc. nothing at all!

March 16

March 19

March 22

April 3 Long shoots started appearing and pointing straight up. Some leaves had a bit of green on the leaf tips, but none were light or all green. Photo on right muted the red color, the photo on the left is a more accurate color.

When I got the plant I put it between two light stands to avoid direct light, given it was stressed (photo on left.) This is the same spot where it rebound as well. I moved the plant (April 20th) so it would get sunlight (not quite an hour's worth) to see if there would be any color change to its leaves. Made no difference at all.

The original light green leaves have hung on and have not changed color.

Smith & Schubert: “In habit, Begonia segregata closely resembles B. maurandiae A. DC, but differs from it and all known members of the Section Gobenia in the form and very small number of its stamens. The capsule sometimes has two large wings instead of one, but this is probably an abnormality”.

EcuaFlor-A, another vendor from Ecuador, sells various Gobenias, and has different ‘types’ of Maurandiae:

Maurandiae

Blue Green Light Yellow

Photos used with permission from Ecuaflor-A/Gilberto Merino

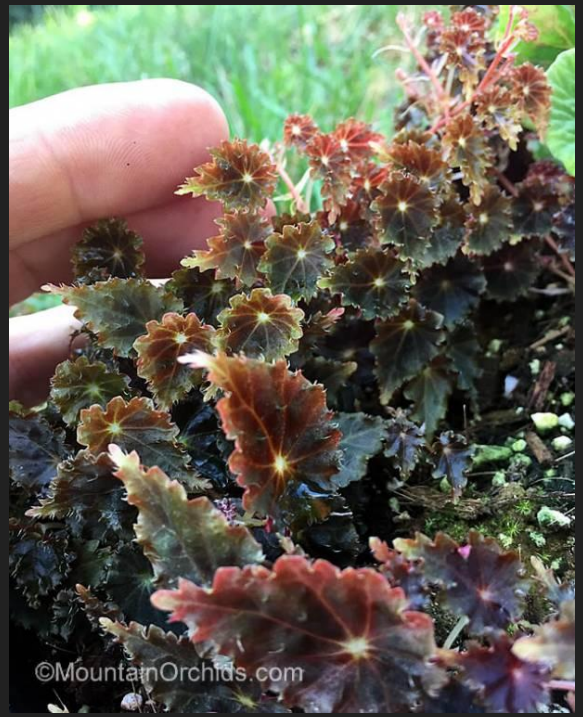
It is clearly impossible sometimes to differentiate some of these Gobenias, especially since some of the old research only finds differentiation in minute details of the flowers, and there are few plants with flowers to visually inspect them. There is also very little info on the internet.

I talked to Darrin Norton, of Mountain Orchids as he had a few Gobenias for sale. He had a ‘Red Leaf’ one that I thought might be B. segregata and he said no, perhaps its B. “Crispate” and he shared some info: Perhaps my plant when received may have been lime green from being in a dark container on the trip from Ecuador to New Hampshire. He shared that he has purchased Gobenias that turned out not to be the begonias labeled, and he is waiting for a few to flower, to see if this will help definitively identify them, though much research is needed. Check out his website for Gobenias that he is growing/sells.
https://www.mountainorchids.com/product/begonia-sp-gobenia-ecuador-crispate

Emily Lisborg of In Search of Small Things, in Oregon, wrote an article describing her adventures with temperamental Gobenias and sells them and other plants. You can see her article here:
https://insearchofsmallthings.com/2019/05/03/begonia-sect-gobenia-sp-lita-ecuador/

On the left is a begonia that Darrin Norton got a year ago that was labeled B. segregata, but clearly is not. On the right is a begonia renamed “Crispate” by Darrin, as he originally received it as B. dodsonii, but thinks it is not, and that it might be the same species as the one I have named B. segregata.

Not B. segregata



“Crispate” per Darrin, not B. dodsonii

To compound identification of Gobenias, on the left, Darrin has B. maurandiae that was labeled at 2015 ABS Convention.

But Darrin speculates it is B. segregata. He is growing it and waiting for flowers to determine species.

I have seen Gobenias for sale that are not on the species list and are not labeled as hybrids, named after towns, departments and areas presumably, where they were collected/found.

If my plant is not B. segregata, whatever it turns out to be, this smaill, very prolific grower (once it is happy), is a really attractive terrarium subject and a keeper!

References:

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https://onlinelibrary.wiley.com/doi/10.12705/672.3 or at:

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