

Clone preservation project update - May 2010

*Aechmea fosteriana* was first collected by Mulford and Racine Foster during their 1939 trip to Brazil (detailed in their book *Brazil - Orchid of the Tropics*). It is a tubular plant with wide, strap shaped leaves that are up to 2 feet long. The leaf surface has irregularly shaped, dark, usually incomplete cross bands with a matte green ground color. The inflorescence is composed of spreading branches. Flowers are separated from each other. In other words, it has a totally different appearance from *Aechmea orlandiana*. *Aechmea fosteriana* var. *rupicola* is similar in overall appearance to typical *fosteriana*, but has a shiny green leaf surface without any crossbands.

I currently have 4 different collections of typical *Aechmea fosteriana*. These represent at least 3 separate clones. The one I have had the longest came from the collection of aroid specialist Monroe Birdsey in the mid 1970's. It is characterized by a dark green ground color and drooping leaf tips. I do not know what the original source was. Monroe Birdsey did some collecting in Brazil, and may have brought back the plant himself. Two of the collections, one from Curt Dowling (through Moyna Price) and the other from Ralph Davis (through Eloise Beach) are similar in appearance and may represent the same clone. The green color on the leaves of these plants is lighter than found in the Birdsey clone, and the leaf tips have less tendency to droop. The other clearly different clone was obtained from Elton Leme by John Anderson (I received it through the good graces of Karl Green). In this clone, the cross bands are straighter in appearance, and more continuous, than in the other clones. This gives the clone a darker appearance overall.

Selby Botanical Gardens living collection contains a plant reported to be a descendent of the type clone from Foster's collection (Sel 1979-1767). I do need to add a note of caution concerning this plant. According to the Smith and Downs Monograph, Foster made two collections of the species from the same site approximately a year apart. Only the descendants of the 1939 collection could be considered descendants of the type clone, since a specimen made from this collection was originally designated the holotype (Foster 177). If the Selby plant is a descendent of the 1940 collection (represented by the specimen Foster878), it must be treated as an early collection without any connection to the type. This holds true even if Foster was able to collect plants from the same vegetative clone in both years. In either case, this is a very important clone to preserve in cultivation. It is possible that evidence bearing on the relationship between the two collections is awaiting discovery in the Foster archive at the University of Central Florida.

*Aechmea gurkeniana* and *Aechmea milsteiniana* are similar in vegetative appearance to *Aechmea fosteriana*. I have recently had the opportunity to compare the flowers of *Aechmea gurkeniana* and *Aechmea milsteiniana* with those from *Aechmea fosteriana* and *Aechmea orlandiana* and found all shared the same relationship between the petals and stamens. Other potential members of the *orlandiana-fosteriana* complex, such as *Aechmea bambusoides* and the recently described *Aechmea atrovittata* have not been available for study yet. *Aechmea correia-araujo* is another potential member of the complex that I have not studied in detail.

No species in this complex appears to be self-fertile, much less to set seed without pollination. You should assume that at least two clones will be needed to produce viable seeds for any of the species. However, it is quite easy to cross *Aechmea orlandiana* and *Aechmea fosteriana* with each other and with other *Aechmea* species (consider the number of reported *Aechmea orlandiana* hybrids). Of course, if you have humming birds around (they tend to be around when plants of this complex are in bloom), there is always a quick little beak ready to cross-pollinate any two open flowers that provide a sip of nectar. The fruits turn blue when seeds mature inside.

If you find these seed-filled fruits, you can try your hand at growing some seedlings. These will all be hybrids, of course, and it is unlikely that any will be worth propagating, but it could be interesting to spend some time trying to figure out what the unknown pollen parent might be.

I need to make some comments on *Aechmea* 'Bert', the hybrid between *Aechmea fosteriana* and *Aechmea orlandiana*. I have some plants that probably came from Foster's original cross (although this is hard to prove given the uncertain distribution of the Frase hybrids); they basically do not have any of the orange colors present in the leaves of *Aechmea orlandiana*. Plants currently for sale as 'Bert' are much more colorful, and have better form, than these old clones. These newer clones could be remakes of the original cross, or the result of more complex crosses within the complex. Since these clones are just as large as the original, they are clearly not *Aechmea* 'Little Bert'. I don't know what *Aechmea* 'Viktor' looks like, so, in theory, this name could apply. However, since no separate cultivar names are attached to these newer clones, we will probably have to come up with new, artificial names (think Clone 1, Clone 2 ...) to distinguish them. Unfortunately, this also means we will probably never be able to decipher their history.

The variegated form of *Aechmea* 'Bert', although readily available, has apparently never been given a cultivar name. It is apparently unique in the way the variegation skips generations. Offsets of variegated plants frequently lose all trace of variegation,

but offsets from these plants also frequently appear with fully developed variegation. This trait means you don't want to discard plants that have lost variegation. It also suggests that you should grow this plant in a clump in order to maintain some variegated rosettes at all times.

As always, if you have any information to add concerning plants in this complex, please let me know. In particular, information concerning older clones still in cultivation or wild-collected plants from some of the many BSI members who collected in Brazil over the years would be welcome.