

Clone Preservation Project Update - Jan 2010

Aechmea orlandiana and *Aechmea fosteriana* were two of the more spectacular plants collected by Mulford and Racine Foster during their trip to Brazil in 1939. Both had prominent dark brown (usually irregular, often incomplete) cross bands on their leaves and interesting shapes. They have commanded the interest of bromeliad collectors since their introduction. The species were crossed to form the hybrid *Aechmea* 'Bert', named after Mulford Foster's son, that was also widely grown. As a bonus, the species were more cold tolerant than many other species of *Aechmea*. Plants in this group are in bud and/or flower at this time of year, making a review particularly appropriate.

I first want to point out that the two species appear to be closely related. Characters they share in common include long, thick stolons that grow in an apparently random pattern (perfectly adapted to life in the trees, but making long-term pot culture near impossible), an ovary (the part of the flower that matures into the fruit) with a compressed and often irregular shape, petals with tips that never spread, and filaments (the normally slender stalks that hold the pollen-bearing anthers) compressed and wider than the anthers themselves. The appearance of the filaments and their relationship with the flower petals set these two species apart from all other species I have examined, although I have not studied nearly enough species to do more than suggest a possible relationship.

Living plants of both species were successfully transported from Brazil to Orlando (not a given during the days when shipping was carried out primarily by boat) where Foster and friends grew and distributed them. *Aechmea orlandiana* was much more widely grown than *Aechmea fosteriana* during the early days of the BSI, showing up in the catalogs of Alberts and Merkle, Roehrs and California Jungle Gardens by the early 1960's. This was apparently due to the greater ease of producing viable seeds and raising the resulting seedlings in bulk for the former species.

Aechmea orlandiana forms a relatively small rosette, usually under 1 foot (30 cm) tall. Leaves are thin with a shiny surface and have very long, dark marginal spines. These spines, despite their prominence, are quite soft, making it a relatively safe plant to work around, even without gloves. At the junction between the leaf blade and sheath, the leaf margins are usually wavy. As far as I am aware, the dark cross bands are only found on the lower surface of the leaves. The species also is notable for its tightly packed, orange-red inflorescence. Individual branches of flowers are largely covered by wide primary bracts. These branches are tightly pressed together, and individual flowers are tightly pressed to their branches. A floral bract is tightly

wrapped around each flower. This bract reaches nearly the tip of the sepals. The sepals are very thick, especially at their base (it is quite difficult to remove them). All visible parts of the inflorescence, other than the petals, have the same color. Petals are white or a light yellow with white margins.

Plants originally described as *Aechmea orlandiana* in 1941 had the dark cross banding we typically associate with the species. The photograph used as the frontispiece of 'Brazil Orchid of the Tropics' by Mulford and Racine Foster shows this clearly (a print of this photograph is also on the type specimen of *Aechmea orlandiana*). In 1986, Edmundo Pereira and Elton Leme described a plant without any cross banding, but otherwise indistinguishable, as *Aechmea chantinii* subspecies *belloi* (Bradea 4(34): 266).

Despite the long history of cultivation and the enduring popularity of *Aechmea orlandiana* (and, especially, the long history of propagation by seed) relatively few cultivars have been recorded. The first, and still the best in terms of color, was *Aechmea orlandiana* 'Ensign'. This albomarginated form was found among seedlings grown by Edgar W Ensign, who grew many plants from seeds provided by Foster. For brightness of coloration, this cultivar is still unmatched. Plants grown in lower light levels with lots of fertilizer have an extremely strong contrast between the dark green leaf center and the white margins with the typical brown splotching. In higher light levels with less food, the margins take on a brilliant pink color. The pink color is heightened where the brown splotches of the crossbands intersect with the chlorophyll-free margin of the leaf. Unfortunately, the variegation is unstable. The white margins tend to increase in width for pups later than the first. Once started along this path, the plants inexorably lose more of the chlorophyll-bearing tissue until they produce too little food to survive. Sometimes, even the first pup comes out with widening margins, so it is not always possible to get even one well-variegated pup. The only safe way to grow this cultivar is to keep a group of perhaps 10 plants. Then you can be reasonably confident of harvesting 10 well-variegated pups. There is also a decent chance that you could produce a small surplus of well-variegated pups for sale or trade.

Aechmea orlandiana 'Reverse Ensign' apparently arose from the same source. It has a much more stable variegation than 'Ensign', but the colors never spill into the pink tones, so the plant is never as spectacular. Another variegated form *Aechmea orlandiana* 'Gold Tone' was introduced by Dennis Cathcart (under Tropiflora number 2324). In this plant, the variegation is stable, but much less distinct, even hard to see at certain times, but giving a modified color to the plant.

to be continued ...

