Clone preservation project update - Oct 2009

Terrie Bert pointed out that my treatment of the relationship between *Aechmea fasciata* and *Aechmea dealbata* was so terse that it could easily be misinterpreted. I fell into the error of writing in my own internal shorthand (one of the disadvantages of working without an editor), and failed to catch it. An expanded explanation follows.

In almost all natural plant species, there is a range of genetic variation in all important characters. This means plant shape, leaf shape and markings, inflorescence size and branching, flower size and color all vary (within limits). We don't see the full range of variation when dealing with cultivated plants. In fact, we may only have a single clone of *Aechmea dealbata* in our collections (although I am trusting some of you will yet prove me wrong), so we have no genetic variation to examine. When we do have several wild-collected clones in cultivation (as in *Aechmea fasciata*), we have a better (though still incomplete) feel for the natural variation within the species. When I said *Aechmea dealbata* is very similar to *Aechmea fasciata*, I was thinking about comparing *Aechmea dealbata* to the range of *Aechmea fasciata* clones in my own collection. *Aechmea dealbata* looks like the smaller plants of *Aechmea fasciata* in terms of size, leaf shape, inflorescence shape and inflorescence structure. This does not, nor was it intended to, imply that *Aechmea dealbata* is taxonomically identical to *Aechmea fasciata*. As mentioned, the bracts of the inflorescence are darker and duller in *Aechmea dealbata*.. Also, the petals are different in color from those found in *Aechmea fasciata*. These are potentially significant characters in the taxonomic sense (i.e. they can be used to separate two taxonomically distinct plants). Indeed, *Aechmea dealbata* is currently treated as a distinct species

Please let me know whenever you find a passage in these updates confusing or incomprehensible. There is probably a rational explanation for what I said even if I was unable to articulate it correctly.

I also want to take the opportunity to expand on something I said during the discussion of *Aechmea chantinii* cultivars. In describing the banding, I said the white bands were formed by trichomes while the dark bands were areas without trichomes. If you are examining the leaf through a hand lens, this would be an adequate explanation. At higher magnification, it is clear that trichomes are more-or-less evenly spread over the leaf surface. In the white bands, there is a margin of cells on the trichome that stand out from the leaf surface. These cells scatter light very effectively to give the white appearance. In the dark bands, the cells of the trichome are pressed against the leaf surface and do not modify the color of the surface at all. The trichomes with the upright margins may be physically different from the

trichomes with spreading margins (say, by having an extra ring of cells), but I do not have the equipment to determine this. In any case, it is an interesting question why the two types of trichomes tend to occur in groups rather than being scattered randomly. I would also like to point out that similar banding (though never so evenly distributed) is seen in several other bromeliad species. Some forms of *Aechmea fasciata* and *Aechmea nudicaulis* come immediately to mind. *Tillandsia hildae* also has quite strong banding. I haven't looked at these plants carefully to see whether the banding has the same origin. The case of *Tillandsia hildae* will be especially interesting because the silver-leaved *Tillandsia* species in general have trichomes that become fully saturated when given water and cease scattering light. You can see the dramatic difference in the leaf color of these plants when you water, and you can watch the silver return to the leaf as the surface dries out. With *Aechmea chantinii*, and the other *Aechmea* species, the color difference between wet and dry leaf surfaces is much less pronounced. This suggests the upturned margins on the trichomes (of *Aechmea chantinii*, at least) never become saturated.

Nat DeLeon provided more information on the *Aechmea chantinii* cultivar 'Dark DeLeon'. It has stiff, more-or-less erect leaves with a dark ground color and uneven banding. In other words, it will be similar to *Aechmea chantinii* 'Pink Goddess' with a dark colored leaf. At this point, I do not know what the inflorescence will look like.

Wally Berg was, aside from being a great collector and grower of bromeliads, an inveterate list maker. He kept track of several numbered series of collections. The most important series was the BAB series of plants from Brazil. Many of these were plants collected by Wally Berg and John Anderson in their travels. Some were plants they found in the gardens of important Brazilian collectors. Relatively detailed information is available on the collection localities of all plants. I have heard of some 250 plants in this series.

Wally Berg's collection was dispersed through an auction held after his death and many of the plants went overseas. However, he shared plants with many other collectors before his death. John Anderson also had a (presumably) complete set of the BAB plants that he, likewise, shared with others. The question is whether we can still identify and preserve all of the plants in this series.

If you have plants in your collection with BAB numbers, please let us know. (Take care to note that there is also an EAB series of plants collected in Ecuador. Right now I would like to concentrate on BAB numbers.) You can use the format introduced last month. Two points to remember when producing your list: the plants were distributed under names that were sometimes provisional _ so more than one

name might be associated with some plants in the series. In addition, the simple numbering system used is prone to errors in transmission. For instance, BAB 191 could easily be interpreted as BAB 194 if a stray mark showed up on the tag, or the opposite could occur just as easily. It should be possible to correct many of these errors and provide a centralized list of names for each plant in the series.

I have many plants from the BAB series in my own collection, and will have them in spreadsheet format by next month. In the meantime, if any of you has access to the original listing for the BAB series (or any other Wally Berg series), please share it with us. I would provide a solid baseline for the database.

Finally, please remember to let me know if there are other people who might be interested in receiving these updates.