

Clone preservation project - Nov 2009

This month I would like to offer a very preliminary review the *Neoregelia johannis* complex. I don't have enough material to pretend I can solve any of the problems in the complex, but I hope that the information I can offer will inspire others to share additional information.

*Neoregelia johannis* and its relatives are typically large plants. They can have leaves to 9 cm (3.5") wide and up to 50 cm (20") long. Of course, a pup from a large plant may bloom at a much smaller size than the parent, especially if it is one of the last pups. Leaves on these small bloomers are still relatively wide compared to other *Neoregelia* complexes. Offsets are produced on thick stolons that are short, so the new offsets arise from under the leaves of the mother plant, forming dense clumps if not removed. There is no coloring of the inner leaves and leaf bases associated with blooming. Leaf margins are well armed with spines that are sharply curved towards the tip of the leaf. These spines are dark, but not always conspicuous due to their relatively small size. An outstanding characteristic of the complex is that the young inflorescence fills only part of the broad, shallow central cup of the plant. At about half-size, the inflorescence is conspicuous, but only half the width of the cup. When flowers start to open, the inflorescence is still surrounded by a ring of open water. In my experience, the inflorescences eventually fill the cup as they age. (In all other *Neoregelia* complexes, the inflorescence expands to completely fill the cup at a very early stage. You are unlikely to ever see the inflorescence before this stage.) In the *Neo johannis* complex, bracts enveloping the inflorescence are large but inconspicuously colored (light green to white) and remaining well below the flowers from an early stage. *Neoregelia johannis* also has stiff floral bracts with narrow, tapering tips that nearly reach the top of the sepals. Petals are usually white (see exception below), only slightly extended beyond the sepals and with tips that spread only slightly. Two characters of the mature fruit are noteworthy. First, the mature, seed-containing fruit are bright red. Ovaries on unpollinated flowers never mature and remain white until they brown with age. Unless you live in a area with active pollinators adapted to this plant, you will need to cross-pollinate between two different clones to see this. In addition, the red fruits will not be visible until you start actively searching for them, spreading the flowers and bracts to get a view of the underlying ovaries and fruit. (Red fruit are not unique to the *Neoregelia johannis* complex. They also occur, at least, in *Neoregelia macwilliamsii*.) Second, the mature fruit are relatively slender. They are 3 to 4 times as long as wide. (In most *Neoregelia* species, the fruits expand greatly in width during fruit maturation, ending up about 2 times as long as wide, so the floral bracts are spread and the top of a mature fruit is readily visible from above.)

There are three widely cultivated clones. *Neoregelia johannis* 'Fairchild' is characterized by primarily green leaves and was introduced by Dean Fairchild. With age, the leaves develop a light to dark red coloration starting at the tips and moving progressively inward. *Neo johannis* 'DeRolf' is a variegated clone collected by Larry DeRolf in Brazil. Without variegation, the plants look very much like 'Fairchild'. Still rare in cultivation is a clone obtained by Karl Green from Roberto Menescal that has leaves more evenly suffused with a red color throughout the life cycle. Additionally, the color is more translucent than the red color on the leaves of 'Fairchild'. This plant, collected in the state (not city) of Rio de Janeiro, also differs in having light violet petals. Otherwise, it is virtually identical to 'Fairchild'.

*Neoregelia correia-araujoii* is currently recognized as a distinct species, but could just as well be considered a clone of *Neoregelia johannis* that has leaves mottled red and green. The inflorescences are not noticeably different between the two species. At least two clones are widely cultivated. I got one clone from Michael Kiehl as *Neo cruenta* x *marmorata*. Presumably, this has been in cultivation for many decades. The other clone (with superior leaf coloration) I have gotten from several sources (including Michael Kiehl). Originally, it came from the garden of the Brazilian collector Luiz K. Correia de Araujo. Bob Work first brought this clone to southern Florida.

Karl Green has another clone, probably from Wally Berg. This plant lost the red leaf mottling almost entirely under his growing conditions, but it has recently regained some of the leaf color. I also have (from Moyna Prince) a small plant collected by Larry DeRolf that is presumably a *Neoregelia correia-araujoii* clone. It has the same leaf markings as the larger plants, but I am still waiting to see it bloom.

As noted above, *Neoregelia correia-araujoii* was treated as a hybrid for many years in the US market (usually *marmorata* x *cruenta*). This question has been examined by Derek Butcher recently (*Bromeliaceae* (Bromeliad Society of Queensland) 51(4):42-45. 2007 also reprinted in *Bromeliad* (Journal of the New Zealand Bromeliad Society) 49(7): 12-13 (with the addition of a photo of a spectacularly colored specimen), although he did not offer any definitive conclusion. There is no obvious reason to consider *Neoregelia correia-araujoii* a hybrid. There is similarity between the leaf markings on *Neo marmorata* and *Neo correia-araujoii*, and that, along with the suspicion that always attends a plant described from cultivation, seems to be the only evidence for hybrid status. (It is worth noting that *Neoregelia rubrovittata* has a similar pattern of leaf markings.) Against this is the essential identity between the inflorescences, flowers and leaf structure of *Neo correia-araujoii* and *Neo johannis*. In addition, it has been noted in Hawaii and Australia (and I can confirm based on my own seedlings) that plants indistinguishable from *Neo johannis* 'Fairchild' can be found among seedlings from a

cross between two clones of *Neo correia-araujoi*.

As a final note on the complex, I would like to note that *Neoregelia cathcartii* seems to belong to the *Neoregelia johannis* complex. The inflorescence of *Neoregelia cathcartii* has the same relative size, floral bracts, sepals and petals as those in the *Neoregelia johannis* complex, although *Neoregelia cathcartii* is a smaller plant with narrower leaves. (I am assuming, of course, that the plant is correctly named in our collections.)

One of the unresolved questions is what plant Mulford Foster called *Neoregelia johannis*. Nothing I have found suggests he ever had the plant now given that name. If anyone has a plant with this label that can be traced back to Foster, please let me know.

As promised, I have gone through my records for plants with BAB numbers. It turns out I have only about one-tenth of the series. I will undoubtedly find a few more plants when I have the opportunity to correlate different collection series. I may actually have many more plants that came from the series, but most of the plants I have from the Berg collection did not come with any identification numbers attached. (In a few cases, it may be possible to identify a specific plant with a BAB number, but in most cases the information is irretrievably lost. This is an example of why you should be meticulous in both collecting available information on the source of your own plants and in passing it along with the plants.) My listing is given in a separate attachment. Please send lists of your own BAB plants, even if you think you only have common species. It is as important to know what BAB plants are widely grown as to know what are barely hanging on in cultivation.

I recently received a plant that could be traced back to the Marian Oppenheimer collection. This name, and several others, should set off alarm bells when you hear them. Any plants we can identify as coming from the early large collections will be invaluable in helping us decipher the history of bromeliads in cultivation. There were, of course, important early collections scattered throughout the warmer regions of the United States (including Hawaii) as well as Australia, New Zealand and Europe. The most important of the classic Florida collections were: Mulford and Racine Foster, Julian Nally, Morris and Helen Dexter, Ralph Davis and Ervin Wurthmann. If you have an opportunity to obtain plants that trace back to any of these collections, you should do so. Also, if you have any additions or corrections to my admittedly subjective list of important collections, please let me know. This is especially true for people with greater knowledge of areas outside of Florida.

