

BROMELIANA

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LEAF ARRANGEMENT AND ARCHITECTURE IN BROMELIADS

by Penrith Goff

(Reprinted from the March-April 2016 Newsletter of SEMBS, the Southeast Michigan Bromeliad Society. Pen Goff is a talented artist and the long-time editor of the Newsletter.)

We generally think of bromeliads as rosettes because most of them are. Exceptions include *Aechmea brevicollis*, *Dyckia estevesii* and most of *Tillandsia subg. diaphoranthema*. Their leaves alternate in two rows, an arrangement called distichous.



Aechmea brevicollis



Dyckia estevesii photo by G. Allaria



Tillandsia gilliesii photo by P. Goff

Polystichous tillandsias have more than two rows of leaves, and most do not form a rosette. Bromeliads generally have rosette shapes, and many can be more or less spiral phyllotaxy depending on the number of leaf tiers or layers - especially if their leaves have markings in whorls.



Tillandsia gilliesii ssp. *polysticha*



Sincoraea heleniceae photo by O. Ribeira



Tillandsia espinosae photo by H. Plever

NEXT MEETING - Tuesday, May 2nd, 2017 **promptly** at 7:00 pm at the Ripley-Grier Studios, 520 - 8th Avenue (betw. 36th & 37th Ave) **Room 16M**.

HOW TO ESTABLISH YOUR NEW PLANTS - Tips and tricks to pot, mount or otherwise grow your new plants, and where to place them in your setups. Please bring in plants for sale and for Show and Tell. **Reminder: you must pick up the plants you ordered.**

A spiral rosette is the most common bromeliad leaf arrangement. Left below - *Vriesea fosteriana*; center and right, complex *Vriesea* hybrids.



Below are two well (over?) grown *Neoregelias* that display the spiral leaf arrangement (phyllotaxy). In Michigan they would have bloomed long before becoming so buxom. The spiral allows each leaf maximum light exposure.



Many-tiered spiral *Neoregelia* rosette



Albomarginated spiral *Neoregelia* rosette

For more information on bromeliad spiral phyllotaxy (leaf arrangement) see: John Catlan, The Fibonacci Sequence and Pineapples, fcbs.org/articles/fibonacci.htm. Phyllotaxy indices (like many other spirals in nature) follow a Fibonacci series, which consists of a series of numbers that remarkably describe many spirals observed in nature.

As Spring growth starts to burgeon all around us, we can hardly help thinking leaf growth is an explosive random response to warm sun and April showers. In reality leaf arrangement and all aspects of plant growth relentlessly follow plant-specific genetic rules. This is beautifully clear in cacti and succulents - and in many bromeliads. The researcher is interested in the efficacy of phyllotaxy and in the relationship of flora and fauna who inhabit it; we collectors value leaf arrangement for its beauty.

Leaf arrangement, however, is only one factor in the aesthetic appeal of bromeliads. The total plant - the architecture - is often a masterpiece of intricate design. Compare the epiphytic orchids or the finest hybrid tea roses; their flowers are gorgeous but their architecture is uninteresting.



Spiral *Dyckia* 'Dragon's Teeth' photo by Geoff Lawn



Variegated Skotak spiral *Guzmania*



Spiral *Cryptanthus* 'Ruby Star' photo by Larry Giroux

Short list of name changes in *Tillandsioideae* from Barfuss 2016, compiled by D Butcher

| Species | Old Genus | New Genus | Species | Old Genus | New Genus |
|-----------------------------|---------------------|------------------------|-----------------------------|-------------------|------------------------|
| <i>acostasolisii</i> | <i>Tillandsia</i> | <i>Lemeltonia</i> | <i>platyrhachis</i> | <i>Tillandsia</i> | <i>Barfussia</i> |
| <i>amadoi</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | <i>plurifolius</i> | <i>Vriesea</i> | <i>Stigmatodon</i> |
| <i>anceps</i> | <i>Tillandsia</i> | <i>Wallisia</i> | <i>pretiosa</i> | <i>Tillandsia</i> | <i>Wallisia</i> |
| <i>apparicianus</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | <i>rosulatulus</i> | <i>Vriesea</i> | <i>Stigmatodon</i> |
| <i>asplundii</i> | <i>Tillandsia</i> | <i>Josemania</i> | <i>sanctateresensis</i> | <i>Vriesea</i> | <i>Stigmatodon</i> |
| <i>belloi</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | <i>scaligera</i> | <i>Tillandsia</i> | <i>Lemeltonia</i> |
| <i>bibeatricis</i> | <i>Vriesea</i> | <i>Lutheria</i> | <i>singularis</i> | <i>Tillandsia</i> | <i>Josemania</i> |
| <i>bifidus</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | <i>soderstromii</i> | <i>Vriesea</i> | <i>Lutheria</i> |
| <i>brassicoides</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | <i>splendens</i> | <i>Vriesea</i> | <i>Lutheria</i> |
| <i>brownii</i> | <i>Mezobromelia</i> | <i>Gregbrownia</i> | <i>splend. v chlorost</i> | <i>Vriesea</i> | <i>Lutheria</i> |
| <i>chrysostachys</i> | <i>Vriesea</i> | <i>Goudaea</i> | <i>splend. v formosa</i> | <i>Vriesea</i> | <i>Lutheria</i> |
| <i>chrys. v stenophylla</i> | <i>Vriesea</i> | <i>Goudaea</i> | <i>splend. v oinochr</i> | <i>Vriesea</i> | <i>Lutheria</i> |
| <i>cornuta</i> | <i>Tillandsia</i> | <i>Lemeltonia</i> | <i>splend. v striatifol</i> | <i>Vriesea</i> | <i>Lutheria</i> |
| <i>costae</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | <i>triglochinosides</i> | <i>Tillandsia</i> | <i>Lemeltonia</i> |
| <i>croceanus</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | <i>truncata</i> | <i>Tillandsia</i> | <i>Josemania</i> |
| <i>cyanea</i> | <i>Tillandsia</i> | <i>Wallisia</i> | <i>truncata v major</i> | <i>Tillandsia</i> | <i>Josemania</i> |
| <i>delicatula</i> | <i>Tillandsia</i> | <i>Josemania</i> | <i>tuerckheimii</i> | <i>Vriesea</i> | <i>Zizkaea</i> |
| <i>dodsonii</i> | <i>Tillandsia</i> | <i>Lemeltonia</i> | <i>venusta</i> | <i>Tillandsia</i> | <i>Racinaea</i> |
| <i>dyeriana</i> | <i>Tillandsia</i> | <i>Racinaea</i> | <i>viridiflora</i> | <i>Tillandsia</i> | <i>Pseudalcantarea</i> |
| <i>euclidianus</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | <i>wagneriana</i> | <i>Tillandsia</i> | <i>Barfussia</i> |
| <i>fontellanus</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | <i>x duvalii treat as</i> | <i>Tillandsia</i> | <i>Wallisia</i> |
| <i>fulgens</i> | <i>Vriesea</i> | <i>Gregbrownia</i> | <i>Duvalii</i> | | |
| <i>funebri</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | | | |
| <i>gastinianus</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | ** <i>lindeniana</i> is a | | |
| <i>glutinosa</i> | <i>Vriesea</i> | <i>Lutheria</i> | new name for the | | |
| <i>goniorachis</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | species formerly | | |
| <i>grandis</i> | <i>Tillandsia</i> | <i>Pseudalcantarea</i> | called <i>Tillandsia</i> | | |
| <i>hamaleana</i> | <i>Tillandsia</i> | <i>Racinaea</i> | <i>umbellata</i> . | | |
| <i>harrylutheri</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | | | |
| <i>heliconioides</i> | <i>Vriesea</i> | <i>Tillandsia</i> | | | |
| <i>hutchisonii</i> | <i>Mezobromelia</i> | <i>Gregbrownia</i> | | | |
| <i>laxissima</i> | <i>Tillandsia</i> | <i>Barfussia</i> | | | |
| <i>laxissima v. moorei</i> | <i>Tillandsia</i> | <i>Barfussia</i> | | | |
| <i>lindeniana</i> ** | <i>Tillandsia</i> | <i>Wallisia</i> | | | |
| <i>lymansmithii</i> | <i>Mezobromelia</i> | <i>Gregbrownia</i> | | | |
| <i>macropetala</i> | <i>Tillandsia</i> | <i>Pseudalcantarea</i> | | | |
| <i>magnibracteatus</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | | | |
| <i>malzinei</i> | <i>Vriesea</i> | <i>Tillandsia</i> | | | |
| <i>monadelpha</i> | <i>Tillandsia</i> | <i>Lemeltonia</i> | | | |
| <i>monstrum</i> | <i>Vriesea</i> | <i>Jagrantia</i> | | | |
| <i>multifoliatum</i> | <i>Vriesea</i> | <i>Stigmatodon</i> | | | |
| <i>narthecioides</i> | <i>Tillandsia</i> | <i>Lemeltonia</i> | | | |
| <i>ospinae</i> | <i>Vriesea</i> | <i>Goudaea</i> | | | |
| <i>ospinae var gruberi</i> | <i>Vriesea</i> | <i>Goudaea</i> | | | |
| <i>pinnata</i> | <i>Tillandsia</i> | <i>Josemania</i> | | | |

BCR GENERA CHANGES: Orthophytum / Sincoraea. Cultivars and new bigeneric genera names compiled by Geoff Lawn, BSI Cultivar Registrar, March, 2017

Baseline references:

1. BSI Journal Vol.66(1) pp.6-19 (Jan-March, 2016). Re-establishment of *Sincoraea* (*Bromeliaceae*). R Louzada & M Wanderley. Eleven former *Orthophytum* species: *Sincoraeas albopicta, amoena, burle-marxii, hatschbachii, heleniceae, humilis, mucugensis, navioides, ophiuroides, rafaelii, ulei* have generated changes to BCR entries' seed parents and /or pollen parents, thus the need for genera reclassification of cultivars listed below.
2. I.C.N. Rules (Melbourne Code 2011) Article H.6, Clause H.6.2: The nothogeneric name of a bigeneric hybrid is a condensed formula in which the names adopted for the parental genera are combined into a single word, using the first part or the whole of one, the last part or the whole of the other (but not the whole of both) and optionally, a connecting vowel.

| Cultivar | New Genus | Old Genus |
|-------------------|---------------------------|--------------------------|
| Andromeda | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Aurora | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Blushing Bride | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Burgundy Hill | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Burgundy Thrill | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Cosmic Blast | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Ecstasy | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Firecracker | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Galactic Warrior | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Gary Hendrix | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| George H Anderson | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Lisanne Kiehl | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Lymanii | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Medalist | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Mollie S | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Ralph Davis | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Rising Tide | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Shiraz | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Supernova | <i>x Sincoregelia</i> | <i>x Neophytum</i> |
| Andrea | <i>Sincoraea</i> | <i>Orthophytum</i> |
| Blaze | <i>x Sincorphytum</i> | <i>Orthophytum</i> |
| Blazing Bonsai | <i>x Sincortanthus</i> | <i>x Orthotanthus</i> |
| Rosita | <i>x Sincorglaziovina</i> | <i>x Orthoglaziovina</i> |
| Selby | <i>x Nidusincoraea</i> | <i>x Ortholarium</i> |
| Powderpuff | <i>x Sincoraechmea</i> | <i>x Orthomea</i> |



x Sincoregelia 'Supernova'

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