

## **A WORD OR TWO ABOUT GARDENING**

### **There are amaryllids other than amaryllis for Miami-Dade**

A previous article on true bulbs for Miami-Dade landscapes described two of the most popular *Hippeastrum* and *Crinum*. Ranking closely with them in popularity are another genus of amaryllids, ***Hymenocallis* spp.** the **spider lilies**. Crinums are often confusingly referred to as spider lilies; however *Hymenocallis* ('true' spider lilies) can be recognized by their flowers, which have a **prominent staminal corona**. This is a white membranous disc connecting the base of the stamens; the feature alluded to in their scientific name (hymen = membrane). The floral tube (perianth) is straight to funnellform, the lobes (tepals) usually long narrow and ribbon-like (linear), white to cream. Flowers are borne in an umbel on a solid scape, and contrast well with the bold, green, broadly strap-like leaves. Most spider lilies are also sweetly fragrant and this together with the size and color (white) of their flowers are typical of moth pollinated plants.

Spider lilies are restricted to the Americas ranging from northern S. America through Central America, Mexico and into the US, principally the SE and lower Mississippi valley. According to the *Flora of North America* 15 distinct species are native to the US, though *Hymenocallis* taxonomy remains confused so this could change. ***Hymenocallis occidentalis*** found from N. Florida to southern Indiana, is the hardiest US species and is among 12 others found in Florida. Several of these are found only in South Florida, with three species having been recorded in Miami-Dade. Two of these, ***H. palmeri*** (**alligator lily**) and especially ***H. tridentata*** are infrequent in cultivation compared to ***H. latifolia*** also found in the Caribbean basin, and sometimes referred to as the chrysolite lily. This latter species is the most commonly cultivated spider lily in local landscapes, with several area nurseries offering potted specimens. It belongs to a group of Caribbean spider lilies (e.g., ***H. caribaeae*** and ***H. littoralis***) that exhibit good drought and salt tolerance and adapt well to calcareous soil. Growing from 2- 3', and flowering during summer, they can be planted in full sun in a free draining soil – add some coarse sand and organic matter to rocky soil – with the tip of the bulb showing. Water only during extended periods of hot dry weather; although regarded as evergreen some leaf loss may occur during winter. Far less tolerant of either salt or drought, *H. palmeri* is one of a group of spider lilies that favor areas bordering freshwater marshes. Growing to only 1' it has smaller but highly fragrant flowers and requires evenly moist soil (in winter it can dry off somewhat) and benefits from some partial shade.

Mexico is especially rich in *Hymenocallis* spp., 29 distinct species having been identified to date with many occupying highly restricted geographic areas. Some are adapted to arid uplands and remain dormant, leafing out and flowering in response to summer rainfall. Others are found in lowland coastal areas or stream/river banks and are more likely to retain foliage year round. One species ***H. eucharidifolia*** has especially distinctive leaves, broader and more elliptical (species name reflects their resemblance to *Eucharis*, the Amazon lily), spirally arranged rather than distichous (in opposite ranks). The larger leaf blades are an adaptation to the reduced exposure

to sunlight in its native habitat, the understory of rainforests in southern Mexico. Not surprisingly this species requires more shade when cultivated as well as moist organically enriched soil (well rotted garden compost or sphagnum peat plus some coarse sand if needed to ensure good drainage).

An especially attractive group of spider lilies are found in the Andean areas of northern S. America; Dr Alan Meerow at the USDA Chapman Field (Miami) separated these into a separate genus, *Ismene*, though a few authors (and plant catalogs) still retain *Hymenocallis*. *Ismene* differs from *Hymenocallis* in having leaves that arise from a thick pseudostem (rather than basally) and flowers that are more pendent not as erect, with the staminal corona striped green. Found in mountainous areas *Ismene* are adapted to cooler temperatures than lowland spider lilies such as *H. latifolia* and should be afforded some shade from hot afternoon sun. It is also advisable to provide a lighter soil than for *Hymenocallis* with additional coarse sand/fine grit to ensure a rapidly draining soil. Where drainage is poor use a raised bed. Plant *Ismene* bulbs with their tip just below the soil surface. Bulbs become dormant during winter and must be kept perfectly dry once foliage begins to die down, otherwise they can rot. This period of cool, dry weather during winter is believed to help stimulate flowering in the summer. As foliage yellows in the fall reduce watering, removing leaves once they are totally yellow. In spring with the emergence of new leaves, gradually resume watering and apply a dressing of slow release or organic bulb fertilizer.

One of the most familiar species *I. narcissiflora* (syn. *Ismene calathina*) is commonly referred to as the **Peruvian daffodil**. Each flower has a green funelform perianth tube, white lobes, and a green-striped staminal corona with toothed edges. More common in cultivation than *Ismene* spp. are hybrids, particularly those involving *I. narcissiflora*. The first these *I. x spofforthiae*, was an early 19<sup>th</sup> Ct cross with *I. amancaes*, the yellow colored flower lobes being derived from this latter species. This original cross by noted English bulb expert Dr William Herbert yielded 'Sulphurea', with 20<sup>th</sup> Ct growers subsequently crossing the same two parent species to obtain a series of cream to yellow flowered hybrids such as 'Sulphur Queen' (flowers yellow though of variable intensity), 'Pax' (white with a hint of yellow) plus several others that are not widely available. Another popular cross, *I. x festalis* (*I. longipetala* x *I. narcissiflora*) has white flowers with a greenish yellow throat. 'Zwanenburg' is a superior selection from this cross with larger flowers. All of the *Ismene* in cultivation are noted for their especially fragrant flowers.

Known also as spider lilies, *Lycoris* spp. are more familiar to Florida residents as **hurricane lilies**. Native to China and Japan, *Lycoris* are found growing in hilly areas often in open woodland where they are partially shaded. Flowers, ranging in color from red (*L. radiata*, most commonly grown species in Florida) to yellow, white and pink, are tubular with flaring lobes and prominent stamens. Hurricane lilies are far more common further north in the state, where they have naturalized, but are not as dependable in Miami-Dade. Dormant during early summer they flower late summer/fall (peak of hurricane season) after which foliage appears, dying back late in the following spring. In active growth during winter, locally our dry season, they will require supplemental water. *Nerine* spp from South Africa (e.g., Guernsey lily,

*Nerine sarniensis*) are similar to *Lycoris* in appearance and culture and again are not recommended for outdoor cultivation in Miami-Dade. To flower reliably both *Lycoris* and *Nerine* require hot dry weather during early summer whilst dormant (June is Miami-Dade's wettest month; bulbs are at risk of rotting).

Better adapted to local conditions than hurricane lilies, **rain lilies** deserve to be used more in local landscapes. Rain lily refers to two separate genera of amaryllids, ***Habranthus*** and ***Zephyranthes***, both restricted to the western hemisphere. The former are found in warm temperate areas of S. America (especially Argentina and Uruguay) while the latter are far more widespread, from eastern and southern US, the Caribbean, through Mexico and down into S. America. A single *Habranthus* species, *H. tubispathus* is found in both S. America and the US (scattered locations from southern Texas east to extreme NW Florida). It is not known whether this latter species is a past introduction to the US or is a disjunct native population.

*Zephyranthes* includes two species **native to Florida: *Z. atamasca* (atamasco lily)**, its' varietal form ***treatiae* (Treat's rain lily)**, plus ***Z. simpsonii***. All three rain lilies occur in several states in the SE US, with the latter two having by far their widest distribution in Florida, though even here they are regarded as endangered, particularly *Z. simpsonii*. The atamasco lily is available commercially but is more suited to north and central Florida.

Also known as **fairly lilies**, *Zephyranthes* can be distinguished from *Habranthus* by the orientation of the flowers (upturned as opposed to nodding) and the even, as opposed to odd, number of stamens. Both have linear, grass-like leaves – be careful not to mistake rain-lily foliage for grassy weeds when not in flower and remove them by accident! Consider setting out markers to show where you have planted bulbs – this is also useful when foliage dies down and bulbs become dormant. Rain lilies flower spring/summer (*Habranthus*), spring to fall (*Zephyranthes*), depending on species. *Habranthus* flowers usually have a more open floral tube (funnelform) while in *Zephyranthes* they are both funnelform and salverform (tubular with abruptly flaring lobes).

The three most frequently grown species of *Zephyranthes* are: ***Z. citrina*** with bright yellow flowers - tolerates somewhat drier soil, offsets slowly but readily produces seed by apomixis (asexual, offspring all identical to mother plant); ***Z. candida***, white flowers with green center; ***Z. rosea*** native to Cuba, evergreen and does well in south Florida – rosy pink flowers. From Mexico ***Z. grandiflora*** – needs moist enriched soil - has much larger bright pink flowers. Cultivated originally in an old Key West garden, ***Z. insularum*** has white flowers blushed pink on the outside – more adaptable to poor soils including limestone. Not native to Florida, its' origin is unknown though could well be somewhere within the Caribbean Basin. Other species are available plus specialist mail order nurseries also offer some very attractive hybrid *Zephyranthes*, with flowers from white (some suffused with pale pink or yellow) to various shades of yellow to deep pink.

Most frequently planted *Habranthus* spp. are ***H. brachyandrus***, with pale to bright pink flowers, the base of the floral tube a darker purplish pink, and ***H. robustus***, flowers white with a tinge of pink. The latter species may be mistakenly offered for sale under its synonym *Z. robusta*. Garden centers sometimes offer packages of

mixed rain lily bulbs – useful if all you want is a mix of colors. If you have definite species in mind or hybrid rain lilies are of interest, seek out a specialist bulb grower.

Rain lilies are most effective in informal beds; set 3” apart, and just below soil level (*Habranthus*) or 2-3” deep (*Zephyranthes*). Soil should be enriched with some organic matter (mature garden compost or peat) with added coarse sand or grit to ensure that it remains crumbly when moist not sticky. *Habranthus* prefers soil that is neutral to slightly alkaline; for both, soil should be moist when in active growth, reducing water once foliage dies down. Repeat flowering can often be induced by allowing the soil to dry out for 2 weeks during summer then watering. Where foliage dies down during winter cut back on watering so that soil is barely moist. Both genera of rain lilies are best planted in dappled shade; otherwise restrict sun to early morning followed by indirect bright light. Too much shade will prevent flowering.

Closely related to rain lilies (similar narrow linear foliage) ***Sprekelia formosissima*** (**Jacobean** or **Aztec lily**) is a species of variable appearance, found only in mountainous areas of Mexico. The unusual orchid-like flowers (designed to attract hummingbirds) have 6 scarlet to crimson tepals: bottom three narrow and pendent, two lateral and wider, and the upper much broader. Bulbs should be planted late winter/early spring, 2” deep and 6” apart in a coarse free draining soil with at most some light shade. Keep soil barely moist, increasing water as top growth appears – flowering scape seen just before or as leaves appear. Allow soil to dry out during winter. Like most other amaryllids bulbs resent root disturbance and should only be lifted and separated if there is a loss of vigor. Several cultivars have been named of which ‘**Superba**’ and ‘**Orient Red**’ are most widely available.

Popular as houseplants, because of their stunning inflorescence and ability to flower under indoor illumination (bright light), ***Scadoxus* spp. (blood lilies)** also make excellent flowering bulbs for local landscapes. In summer each bulb flowers once sending up a 16–36” scape bearing a single globose to conical inflorescence, which usually lasts for 3-4 weeks. As flowers fade, from 9-12, spirally arranged, bright green, ovate to elliptical leaves appear, the sheathing bases of which together form a prominent pseudostem. Unlike most amaryllids, *Scadoxus* spp. do not produce true bulbs; vegetative reproduction is by means of rhizomatous offsets. This is one of several features that separate *Scadoxus* spp. from *Haemanthus*, the genus with which they were formerly associated (see below).

*Scadoxus* are found in southern, central and eastern Africa, extending into the Arabian peninsular, with 9 species recognized to date. Of these the most frequently cultivated is ***S. multiflorus***, in particular the **subsp. *Katherinae*** (commonly known by several names including blood lily and Catherine wheel). Given optimum conditions growth to 2½’ is possible; locally expect foliage to reach a height of 18”. The scape is slightly taller and bears a spherical umbel of up to 200 small tubular flowers, ranging from pinkish to orangey red, each of which has prominently exerted (protruding) stamens with bright yellow anthers. The less commonly cultivated ***S. puniceus* (royal paintbrush)** has a 2-4” cone-shaped rather than spherical inflorescence, subtended by striking red bracts, and comprises up to 100 small yellow to red flowers.

The brush-like inflorescence of *S. puniceus* is similar to blood lilies found in the closely related genus ***Haemanthus***. The latter can be distinguished from *Scadoxus* based on the number and arrangement of leaves: only 2 to at most 6 leaves, distichous (in two opposite ranks), basal (no pseudostem) held prostrate to erect near the ground. Compared to *Scadoxus*, leaves of *Haemanthus* blood lilies are thicker, strap-like (lorate) and lack a prominent mid-rib. In evergreen species leaves can be retained for more than a year. *Haemanthus* is restricted to S. Africa and Namibia and in general occur in drier habitat than *Scadoxus*, most in areas of winter rainfall (more of a Mediterranean type climate, e.g., southern California). As a consequence they are less likely to succeed outdoors under local conditions. The **white paintbrush** (*H. albiflos*), one of only three evergreen species, is found in both summer and winter rainfall areas of S. Africa. This is the easiest and most widely grown species and would be expected most likely to adapt to local conditions. The flower head is 2-3" across and contains up to 50 small white flowers, and is borne on a stout 12-15" scape.

Both *Scadoxus* and especially *Haemanthus* require an enriched but quick draining soil – add coarse sand or fine grit to a soil based potting mix. Consider a raised bed where drainage is slow, especially for *Haemanthus*. Plant *Scadoxus* bulbs with the tops just covered with soil and *Haemanthus* with bulb tops just showing, at 2-3' intervals (space needed for offsets). Both require either dappled shade or early morning full sun followed by bright light (no direct sun). During winter *Scadoxus* leaves should be allowed to die down and the soil kept barely moist. For *H. albiflos* water every 10 days with a deep soaking during periods without rainfall. Other species of *Haemanthus* are probably better grown in unglazed ceramic containers, where it is easier to control growing conditions.

Both above genera of blood lilies resent root disturbance; unless the site is proving too confining they are best left in situ for several years before lifting and separating offsets. Decorative fleshy fruits form after flowering (more likely where a group of blood lilies flower together permitting cross pollination). The seeds can be removed from ripe berries once they soften and should be used immediately as they are viable for a limited period (cannot be dried and stored for later use). From seed it can be at least 3 years before a flowering bulb develops, even longer for some species of *Haemanthus*.

While remaining in the shade garden we double back to S. America to find ***Eucharis***, which produce one of the most exquisite white flowers you will see in the tropical shade garden, plus the added dividend of striking year round foliage. *Eucharis* contains 17 species of which only two members are widely cultivated, ***E. amazonica*** (syn. *E. grandiflora*) and ***E. x grandiflora***, each of which bears the name **Amazon lily**. The former is found in NE Peru the latter in western Colombia, both as components of the rainforest understory. Note that the latter plant used to be regarded as a distinct species, but is now known to be a naturally occurring cross (probably *E. sanderi* x *E. moorei*). Both Amazon lilies are similar; *E. amazonica* being somewhat larger, the leaves not as plicate (lengthwise folds), and flowers with a more cylindrical staminal cup. Functionally *E. x grandiflora* differs in being sterile (does not produce fertile seed). *Eucharis* can flower more than once a year more so

if the soil dries out for 3-4 weeks followed by rain (or water). An umbel of 6-10 nodding flowers, resembling those of *Ismene* (see above) or the more familiar Narcissus, are borne on a solid 2' scape. The pure glowing white of the flowers is especially effective set against the dark green hosta-like foliage – Amazon lilies are effective as both foliage and flowering plants.

If planting *Eucharis* in the landscape prepare a small bed of enriched soil using sphagnum peat, leaf mold and partly composted pine bark plus sufficient coarse sand to give a moist but not sticky mix. Plant in spring, choosing an area out of direct sun (foliage readily burns), but in bright light. The lea of a north facing wall is a good choice providing there is protection from cold drying winds in winter. Bulbs should be set just below soil level, spaced no more than 4" apart and soil kept just moist with increased water as top growth is seen – bulbs will rot if soil remains wet. As with many other amaryllids flowering improves as bulbs become more crowded – it can be 2-3 years before bulbs commence flowering, but the wait will be amply rewarded. Snails can disfigure a plant overnight and should be controlled with an appropriate bait.

Amazon lilies are evergreen but leaves will die down if soil is allowed to dry out too much – plants are more vigorous if foliage is retained year round. Water as necessary to keep soil moist; allowing the soil to dry off slightly will often induce flowering, and less water is required in winter (too much will cause bulbs to rot). During winter leaves will become increasingly flaccid as temperatures approach 40°F, and scorched below 35 °F. Where the risk of frost is higher (Redlands, far western suburbs of Miami-Dade), consider using containers so that plants can be transported under cover as necessary. Plant 2 bulbs per 6" container – if placing these in the landscape choose dark green plastic pots to blend in with neighboring low growing shade loving plants.

**Cyrtanthus** is a genus of about 60 species occurring mostly in South Africa of which **C. elatus** (syn. *C. purpureus*, the **Scarborough** or **George lily**) is most widely known. Leaves are basal (no pseudostem), narrow, lorate to lanceolate, apple green; flowers, bright scarlet, open, funnellform, in an umbel borne on a slender scape. The cultivar '**Alba**' has white flowers and **var. Delicata** salmon pink flowers. *Cyrtanthus* is prone to root rots so the soil must be free draining - ½ coarse sand/grit the remainder a mix of composted pine bark, leaf mold and Canadian peat. A raised bed is advisable where drainage is poor. Provide shade – early morning sun then bright light the remainder of the day. Set bulbs with the neck just above soil level. Lightly top-dress with a low nitrogen/high potassium fertilizer, such as an organic 3/8/8 or 4/10/6 bulb fertilizer, then water-in. While flowering and in active growth provide water as needed to maintain soil moisture, reducing frequency during winter - soil must be allowed to first dry off to induce spring/summer flowering.

The **Ifafa lily C. mackenii** is also evergreen and one of the most adaptable *Cyrtanthus* spp. for garden culture. Flowers are white in **var. mackenii** and yellow in **var. cooperi** with the later especially fragrant. Blooming on and off through summer into fall, flowers can be cut and the fragrance enjoyed indoors. Most species, especially those that are deciduous and found in arid environments, have exacting requirements and are a challenge even for experienced growers. These are

unsuited to landscape use and must be grown in containers where it is easier to manipulate growing conditions.

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