A NATIVE PLANT YARD, drawing by Elizabeth Smith

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Spring Conference  May 5-8, 1988
by John G. Beriault

In planning and planting your native plant yard, two factors need to be considered, other than the soil, shade, and moisture preferences of each plant.

The first is that many of our native plants seem difficult or impossible to transplant and perpetuate out of their wild habitat. Certain plants require highly specialized conditions that must evolve with the changing seasons of the year. Certain marsh grassland wildflowers and sandhill "scrub" plants are difficult to grow and maintain for this reason.

The other consideration is a legal one. State and federal laws are in force that prohibit removal of certain plants from the wild, with some exceptions. One exception allows removal of plants from highway or other construction sites under supervision of a state forester. Our Florida Native Plant Society has had several opportunities to do so, and hopes to have others in the future. Any advice given in this article assumes you have obtained the plants in question legally!

Orchids and bromeliads.

Keeping the above injunction in mind, one of the fascinating groups of plants I place in the category of "understory" vegetation, for lack of a better category, are the epiphytes. We have native orchids, bromeliads, ferns, a cactus, peperomia, mosses, lichens, and others that are found growing on trees — dead or living — and occasionally on rock piles (as lithophytes). Of the orchids, we have a wide
range of types (all protected by law) found growing both terrestrially and as epiphytes. Both kinds of orchids require careful and specialized care, and — with the exception of a few hardy species — most people’s experience with native orchids has been of limited success.

A widespread type — hardy, yet one of the more striking natives — is the butterfly orchid (Encyclia tampense). This orchid is sympodial (branching) in growth, has pseudobulbs, and blooms in late May/early June with a spray of creamy-white flowers with variable magenta-spotted labellums (lips). Its flowers are highly fragrant in the daytime, so apparently the strategy for this species is to attract insect and animal pollinators that are diurnal.

This small orchid was once present by the tens of thousands per square mile in the dwarf cypress areas of Collier County. Frost, drainage, drought, fire, air pollution (to an undetermined extent), and mealybug infestation have drastically reduced its numbers, although there seems to be a slight come-back recently.

Many orchids, including the butterfly orchid, are more easily grown than the hothouse myth of orchid cultivation would allow. Butterfly orchids can tolerate direct sunlight in an exposed location at least part of the day. They can be grown on driftwood or on certain living trees such as oak or slash pine.

They should be fertilized by spraying with a solution of Peters 20-20 or “Watch Us Grow” at least monthly, and moistened with water at least weekly.

Mealybugs (small, white, hairy growths at the base of the pseudobulbs) need to be eradicated as soon as they are noticed. Spraying lightly with alcohol may help, but — for non-organically-inclined gardeners — a systemic insecticide such as Orthene may prove necessary. My own feeling on insecticides and other poisons is to use little or none and, if used, only as a final and extreme resort to save the plant.

One of the best means of growing this and other epiphytes is by mounting them on various types of compatible deadwood. Two of the better varieties of wood are cypress and buttonwood. Weathered fragments of cypress can be found without disturbing living trees in certain areas. The drainage of many dwarf cypress areas over the last 30 years has created much deadwood which can be frequently collected off the ground as windfalls.

The most suitable mounting material should be hard, weathered, silvery, with little or no charring from fire, and without rotten or “pithy” areas. Branched sections make the best platforms for establishing orchids. The illustrations show the steps in preparing an orchid mount.
Part of the credit of this design should go to my friend, Joe Long, who helped me perfect this through a long period of experimentation. How an orchid or bromeliad is attached to a mount or tree is important to future growth and viability. It is necessary to observe the growth patterns of plants in the wild to establish the orientation of the plant, the specific location nature and fate have chosen, the micro-environment (shade, humidity, etc.), and the nutritional opportunities for the plant.

Epiphytes, as a rule, should be firmly bound or otherwise affixed to their growing surface. My personal preference is tying it with nylon twine, which does not rapidly deteriorate out in the weather. A small bit of sphagnum peat should be placed under the orchid before it is tied in place to help establish it by retaining some moisture and nutrients.

Orchids and bromeliads should be affixed in an upright position. Many orchids prefer the tops of nearly horizontal limbs, where they are found growing with resurrection ferns, bromeliads, and peperomias. Other orchids grow on a nearly vertical surface on the trunks of trees. Bromeliads usually need to be upright because they derive nutrition — not from their roots which are mostly used for anchoring — but from their bases which catch and retain water and detrital matter.

Orchids mounted on wood require daily dampening with water since wood has a tendency to dry faster than most potting media. Orchids in a favorable situation should (particularly in summer) shortly put out a system of roots that will anchor and provide nutrients. Good root activity is evidenced by green tips on the ends of roots that mark new, vigorous growth. If root growth is healthy enough, it may be possible to untie the plant and let its root system hold it in place. However, it is my experience that the string should be left in place in most instances.

One advantage of mounting orchids on movable objects such as deadwood or in pots is the ability to bring them to a place of warmth or safety in the event of a cold spell or a hurricane. An improvised clothesline can be strung up on a porch or in a garage. Orchids can generally spend several days indoors without any serious after-effects. A moveable mount can also enable you to shift an orchid around, adjusting its growing conditions to an optimal level of shade and humidity.

Bromeliads, particularly some of our more common native species, can be grown easily. Unlike orchids, they are best left nearly alone. Any fertilizing must be done with care and with a very weak solution. Bromeliads, under most outdoor circumstances, tend to trap enough nutrients to grow and develop without the need for fertilizer.

One relatively harmless way of collecting bromeliads is to examine the bloom spikes of mature plants for “detainees” — those young plants that have germinated from seed but are still trapped by adhesion to the spike. Most bromeliad seed has fluffy appendages that enable it, like milkweed, to blow along air currents to a suitable germinating location on another tree branch or trunk. In nature, the fluff snags, becomes wet and matted against the rough bark or other aerial surface, and acts as an anchor to allow the seed time to germinate and the seedling an opportunity to put out anchoring roots. Those seeds trapped on the spike become seedlings whose future is dim due to the impermanence of the growing surface. Some of the seedlings found like this can be small enough to allow 20 or more to fit in a space the size of a thumbnail. The seedlings are usually still bound up with the fluff, and much of this should be retained by anyone harvesting them.

The bromeliad seedlings you collect can be affixed to a suitable growing surface with a small drop of white casein glue such as Elmer’s. Care must be taken not to douse the seedling, but to affix the roots, if it has any, or some of the fluff to the tree. The seedling should be glued in an upright position as possible. The white glue is organic and somewhat water soluble. Pretty soon, about 80% or more of the seedlings should grow and mature if the surroundings are compatible.

I find this method of propagating very satisfying because I am using a plant resource that would likely perish otherwise, and because there is the added pleasure of being able to observe the complete growth cycle, and to more carefully position what will be an attractive epiphytic complement to an oak or other tree. Trees that have peeling bark, such as gumbo-limbo, unfortunately make poor epiphytic hosts because the roots of the epiphyte cannot find a permanent purchase. I have, however, placed and maintained orchids in gumbo-limbo by providing a thicker padding of peat and keeping them permanently and securely tied.

Building a pond habitat.

To add to the pleasures of your back yard, consider creating a marsh or pond habitat. Swamps, to me at least, are fascinating and complex associations of plants and animals. A shallow backyard pool gives an observer hours of enjoyment and instruction on the mechanics of life.

I’ve had my pool for 13 years and have never found it to be a static entity. Its character changes seasonally
and through the evolving growth of the surrounding hammock. At present, the pool is heavily overshadowed by the hammock — in fact, too shaded. My recommendation is to establish your pool in full light and control the amount of surrounding vegetation or shade.

The job of building the pool or pond can be a rewarding — not to mention unique — project. Few people attempt to build pools because there seems to be little information to provide guidance, and because the logistics of creating such a system seem daunting and difficult.

But if the job is taken in stages, difficulties can be kept to a minimum. The first step is deciding the size of the pool, its depth, its position in relation to other aspects of your yard, and whether certain "extras" such as drainage pipes and waterfalls are to be part of the scheme.

As to size, a pool can range from several square feet to several hundred square feet. Depth should be somewhere in the 8" to 36" range to allow inclusion of marsh plants and/or water lilies, and maybe even young cypress trees.

There are several ways to construct a pool, ranging from the purchase of a fiberglass shell ready to be set in the ground, to the construction of a concrete liner the way a swimming pool is made.

I built a concrete pool back in February, 1974. I started by laying out the configuration in what was then a very bare and open backyard. I took a can of orange fluorescent spray paint and sprayed a free-form kidney-shaped outline. I then began to excavate the area, leaving some portions of the projected pond shallow, others deeper to accommodate the growth of water lilies, and some areas deeper still to allow the planting of fair-sized cypress trees. The depth of my pool was limited to some extent by a solid underlying layer of limestone caprock. The spoil dirt resulting from the digging became portions of contoured "hills" providing a backdrop for the pool.

The next step was to line the completed hole with 6 x 6 road or reinforcing wire. This wire was kept suspended 2 inches above ground surface by supporting it on small pieces of concrete block and rocks uncovered during the course of excavation. It is very important that the mesh be kept off the ground so that it will be imbedded in the concrete
when the concrete is poured in.

Several books on how to construct pools suggest placing stakes with marks on them throughout the pool to determine how deep to lay the concrete for uniform thickness. This is probably not a bad idea since you have a limited amount of time with which to work the concrete. The stakes are pulled up as the proper thickness is achieved. Another important thing is to level (by means of a stringline level) the rim of your pool. Water will run over the edge at the lowest point of the rim.

At this point you need to decide whether to install a drain in the bottom of the pool. I would advise against it as an unnecessary complication that may leak and cause other problems.

If you create a fair balance of plants and animals in your "marsh", you shouldn't ever have to drain and redo. Every year or so, I "demuck" parts of my pool where there is an accumulation of sediment, but I haven't had to do anything else for 12 years. However, a drain overflow pipe in the top rim of the pool is important to accommodate summer rain.
bine ¼ part mortar mix to 1 part sand mix to make it easier to work, but I used straight sand mix. Spread this final coat ½" to 1" thick with a rectangular finish trowel. This finish coat is important not just for appearance, but also to seal the pool, making it less porous.

One final thing you may notice is that your pool, after the addition of the concrete shell, is smaller than you expected. Remember I warned you to allow the original hole you dig to be five to ten percent bigger than the final size you want your pool.

In contrast to most of my previous suggestions about planting, I would recommend planting the understory marsh plants first, and follow these with seedlings of taller swamp species. I would set the plants before introducing fish, for the plants establish the proper conditions for fish and other animals.

A word of caution: city water (i.e., out of the tap) is the kiss of death to fish and other aquatic animals due to the new persistent chemicals added to purify it. Several commercial neutralizers are available, but these sometimes don’t seem to work and are expensive in the quantity needed for a fair-sized pool. One should rely on well water or rain water, with perhaps a system for diverting water runoff into the pool.

Newly established pools that are in direct sunlight sometimes acquire “blooms” of algae or concentrations of other microorganisms. These can be corrected by tinkering with the system — adding more shade, planting more plants to absorb more nutrients, cutting back on the feeding of any animals in the pool.

Every pool will be subject to different conditions, so this tinkering and gradual acquisition of experience is the best course. What has worked for me may not be the “right” way, but, as in landscaping, each individual needs to try various approaches and be “wrong” or frustrated occasionally.

My technique is to pick certain shallow areas of the pool, or areas deepened to receive trees, and fill these with composted cow manure or top soil. Most marsh plants prefer growing a foot above or below the mean water line. Observing the natural environments (and reading The Swamp, by Bill Thomas, W.W. Norton Company, N.Y., 1976) is useful in getting a feeling for associations. Swamp plants tend to arrange themselves naturally in a pool once they are established. More than in any other form of landscaping, one tends to “orchestrate” swamp plants, rather than positioning them in static arrangements.

After the initial planting, let the water “age” and clear up before adding fish and other creatures. If you add turtles, give the plants a little longer to establish themselves so they’ll stay anchored when the turtles push against them or nibble them.

Gathering tadpoles or egg masses can give your pond a frog population that will give song at night and make your yard feel like a wilderness. Epiphytes like growing on the trees you place in or near the pool. Small events such as the emergence of dragonfly larva or the ripening of pond-apple fruit can be a highlight.

Planting my back yard in native plants has been a twelve-year-long love affair with nature. It has occupied mind and body, and each aspect of it has provided pleasure. I hope I have given someone at least one idea for making your own back yard a haven of peace and beauty.

Plants for Tomorrow grows native seedlings, rooted cuttings, trees, shrubs, and other landscape material.

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