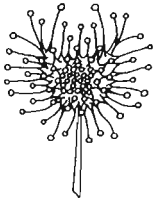


The Savage Garden

“The Potted Terrarium”



by

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California Carnivores

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The method of growing carnivorous plants in tanks is still one of the most popular and enjoyable ways to raise carnivores. Not only can a well done tank of flesh-eating plants rival a commonplace aquarium for decorative beauty, but the maintenance can be but a couple of hours a month or less, and unlike fish, you won't have to feed your plants every day. Also, tanks and terrariums can be kept almost anywhere in the home, school or office. I strongly suggest you consider cultivating the plants under grow-lights, which eventually will be the subject of another column. But suffice it to say that fluorescent lights are best for your typical terrarium, and two 48" tubes will make a four foot long shop-light fixture the perfect method of lighting a 55 gallon 'long' style tank. By using the excellent and inexpensive GE Plant and Aquarium Lights, available at discount places like Walmart or K-Mart, you can get a spotlight fixture and bulbs for less than \$20.

There are several ways of growing CP in tanks. Although the classical terrarium may be the first to come to mind, this old-fashioned, soil-at-the-bottom-of-an-aquarium style may not necessarily be the best. Although the classical terrarium may at times be aesthetically pleasing, it does have its drawbacks. For one thing, variety may be limited, since some plants may require a dormancy while others do not. Another problem is that some plants may spread through root or seed growth and become a weedy mess. Still further, setting up and redoing a terrarium can be a sloppy ordeal, and if one plant succumbs to disease or pests, the whole terrarium may soon follow suit. And finally, some of the plants you may wish to grow in your terrarium may require somewhat different cultivating techniques than others. A Mexican butterwort, for example, needs a somewhat drier winter and different soil than, say, *Cephalotus*.

Here I will discuss two "terrarium" methods, what I call the potted greenhouse-style terrarium, and the potted landscaped.

Potted Greenhouse-Style Terrarium

This is my favorite method of growing CP in tanks. Basically, you take an empty aquarium, sit fluorescent growlights along its glass-covered top, and you grow the plants in pots that sit in individual water saucers.

There are several reasons why this method is superior. The first is plant variety. Kept in individual pots and saucers, you can grow *Nepenthes* in their preferred soil mix, while rainbow plants grow along side in a completely different medium. You can grow temperate plants with the tropicals most of the year, but can easily remove a venus fly trap or purple pitcher plant during the winter and place them else where for their dormancy. Should aphids suddenly appear on a sundew recently added to the tank, it can be promptly removed and treated before the pest spreads to other plants. In fact, a simple way to control almost any pest that appears in a terrarium of this type, is to set a flea collar into the tank, making sure the collar doesn't come into contact with any water or soil. Flea collars in an enclosed tank will wipe out aphids, scale, mealybug, thrips and fungus gnat larva with minimal hassle.

Keeping the potted plants in individual saucers allows you to maintain the wetter/

drier cycle some plants may require, such as Mexican butterworts. Also, species such as *Byblis liniflora*, *Cephalotus*, and *Nepenthes* would not appreciate water-logged conditions all of the time.

But probably the biggest relief comes at cleaning time. If the pots simply sat in the tank, using the bottom of the tank as a water tray, large and heavy tanks can be an ordeal to clean when algae and splashed soil particles become unsightly. Using the saucer method will make cleaning the tank much easier.

Another benefit of the saucer method for the greenhouse terrarium is that lower-growing plants like rosetted sundews can be raised closer to the lights by placing the pot and saucer on an empty upside-down pot, or some other pedestal. Further, plants with larger drooping or pendulous leaves, such as *Drosera multifida* or *Nepenthes*, will be shown to a better advantage by raising them on a pedestal.

To make a potted terrarium more pleasing to the eye, be sure to use uniform pots and saucers of the same shape or color. Your basic round or circular green plastic pots work well here, or you may choose an opposite approach and grow the plants in a variety of ceramic, glazed pottery.

The Potted Landscaped Terrarium

This method is rather similar to the above except that the space between the pots are filled with fine orchid bark, lava rock, perlite, pumice or mosses to give the appearance that they are planted in soil. Long-fibered sphagnum makes a good medium to use for this method, and live sphagnum growing along the surface can be rather attractive. Trimming the live moss will be necessary to prevent it from overgrowing some of the shorter potted plants. One can also use orchid bark, pumice, lava rock or perlite as a base to hide the pots, with the sphagnum as a top dressing—although I must admit the whiteness of perlite may be distracting when visible through the glass. You can still keep the plants in individual saucers, but it is easier to set them on a base of moss or lava rock, raising or lowering this medium as would suit the plant's wetness or dryness requirements. The water table would be visible through the glass.

It can be fun to decorate a tank with this method. Raised pots of *Nepenthes* can be hidden with Spanish or sphagnum mosses, draped along the pot's exterior. Potted bog grass, orchids or ferns can make the tank more "natural". I like to set mossy branches, rocks and *Tillandsias* (bromeliad air plants) along the soil surface of such a tank, giving the appearance of a tropical jungle, even if the plants are not native to such an environment. Although lethal as a growing medium, decorative or green sheet mosses can be used as a soil dressing as well.

Some people fret over the feeding of carnivorous plants in the terrarium. Of course you could go through the hassle of feeding your plants live insects, and this certainly may be entertaining if such a tank were on display in an office or children's museum. But it is easier to occasionally mist the foliage of terrarium plants with a diluted fertilizer (a subject for another column) or you can go to your local pet shop and buy a vial of dried insects, like flies or musca larvae, and feed these to your plants about once a month or so.

When plants are kept in individual pots in a landscaped terrarium, you have the advantage of moving them about as in the greenhouse-style tank. Cleaning out and re-doing the tank would be necessary every couple of years or so, and using a base medium of pumice or lava rock will last longer and cleaner than if you used pure sphagnum as a base.

There are four things to consider if you wish to make your terrarium easier to maintain and more attractive. One is to attach your grow-lights to a timer, so they will go on and off without your having to be around. The second is to keep your tank ventilated. This means having an air gap along the top of the tank of one to two inches, to allow good air circulation. A constantly steamed-up tank with an over-abundance of humidity and stagnant air is a sure invitation to mold and fungus. A third important suggestion is to line the back and sides of the tank with a reflective material such as mylar or white cardboard or mirrors. This will greatly enhance the strength of light

upon the plants and color them up beautifully. Some growers plan a removable reflector on the front of the tank, removing it when they are home or wish to view the plants. This will cause the light to bounce around the tank and the vivid colors of the plants, even some distance from the growlights, will take your breath away. Finally, I like to keep a spray bottle of purified water near the tank. Giving the terrarium a heavy mist in the morning and evening will increase humidity and circulate the air.

The following is a list of suitable plants for both styles of terrariums mentioned above. I will list here only warm-temperate, subtropical and tropical plants that don't require a dormancy in winter. If you wish to include such coldwinter plants like venus fly traps or purple pitcher plants, they are best removed between Halloween and Thanksgiving and placed in a chilly environment until around Valentine's Day in February, when they can be returned to the tank. The following plants do well at room temperature, between 50-60 F minimum and 75-85 F maximum. In order to trigger the seasonal growth habits of varieties like pygmy sundews or Mexican butterworts, I like to reduce the photo-period of the grow-lights to 12 hours in winter, increasing this to 16 hours by summer.

Most *Nepenthes*. If your house has cooler night temperatures stick with highland plants. Warmer nights 60 F and above are best for the lowlanders. *N. ventricosa* is superb due to its shorter growth habit. Also good are *N. alata*, *tenticulata*, *glabratus*, *tobiaca*, and *ampullaria*, which can all be pruned severely when they get too large. Cape sundews and rosetted sundews, such as *D. aliciae*, *spatulata*, *hamiltonii* and *capillaris*. Trim flower stalks to prevent seedlings from going wild.

Tropical sundews such as *D. adela*, *schizandra*, *prolifera* and *petiolaris* as well as *D. anglica* 'Hawaii' and *intermedia* 'tropical form'.

Most pygmy sundews.

Forked sundews such as *D. multifida*, *extrema* and X 'marston dragon'

All Mexican butterworts.

Byblis liniflora.

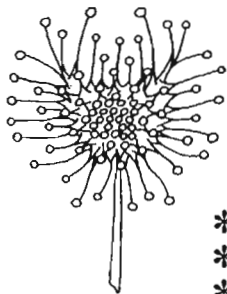
Most *Heliamphora* species.

Cephalotus.

Subtropical terrestrial bladderworts, such as *U. sandersonii*, *livida*, and *calycifida*.

Tropical epiphytic bladderworts like *U. longifolia*, *alpina* and *reinformis*.

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