

together. *Drosera auriculata* has been found in growth and flower at all times throughout the year, dependent upon location. *Drosera peltata* follows a more rigid annual growth pattern; but even so, the various forms ensure that this species flowers through most of the year within its range. From my observations to date, the flower structure of all forms of both species do not differ. Only the colour of the flower components differ. Thus we are simply dealing with some of the variation in two distinct species.

Hybridization has been suggested as a possible explanation for the observed variation of both species (Pierson, 1990; R. Tilbrooke, 1990, pers. comm.). I have yet to find support for this hypothesis however, and further work is required in this area.

The purpose of this article was merely to give an account of some of the variation encountered in a small part of the range of both species. It would be useful if this work could be carried out through the rest of their range.

References

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Another Method for Growing *Darlingtonia*

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After talking to several people, all growers of the "cobra lily", I noticed that for some people it is really easy, "Just set it in a tray of water and treat it like a *Sarracenia*" and for others like me, it isn't. It's daily waterings, icing, finding that "just right" spot, and then losing it when I go away for any length of time occurred too often. Or at least it used to be.

I lost two plants in a freeze last winter and started to ask myself if perhaps I should give up on this plant. Then , I found a couple of really nice specimens that were irresistible and decided that I was not going to lose any more of these plants. The following method was worked out very early last year and tested throughout the summer, and the plants are alive now and growing.

To start with, I use an aquarium (dimensions 20" x 20" x 12") with an under-gravel filter system installed. Three air lines are placed so that one is in the middle, between the filter plates, and the other two that drive the filter system are in the corners. I use a Whisper 500 air pump to supply the air, but any large air pump will do.

Over the gravel layer, I add a two inch layer of coarsely shredded live sphagnum moss. A second layer of unshredded live sphagnum is added to fill the aquarium to about the two-thirds level. It is in this moss bed that the plants are placed with no attempt to remove any compost clinging to the roots. Next, water is added until it is about one inch below the top of the moss. An aquarium thermometer is also added,

being pushed as deep into the moss as possible. After adding the water, it is time to turn on the air pump. The length of the plastic circulation tubes should be adjusted to allow the water to bubble over the tops of them into the surface moss.

I have this set up on the north-east corner of the house where it receives only morning and late afternoon sun.

The reason for doing all this is to keep the temperature of the roots low while providing an adequate amount of light for the plant to thrive. The plant grows best with its roots in circulating water of not more than 65°F. for any prolonged period of time. The combination of location and circulation achieves this goal, and the addition of filtration may benefit the plant by keeping bacterial build-up low. The location assures maximum light with a minimum build-up of heat in the water. Oxygen is also added to the water, particularly via the middle air line, possibly helping to counteract the noxious effects of bacterial growth.

I check the thermometer regularly and when the outside temperature gets above 80°F., I add ice which in my case was only needed for about two weeks during the hottest part of summer. That occurred when temperatures were in the mid-90s. I occasionally drain and replace the water in the summer, and add more water as needed. The plants are growing vigorously, producing pitchers to 16 inches although the average is 10 inches. Stolon growth is rapid and profuse, and there are flowers for the first time since I started growing *Darlingtonia*. It makes up for losing so many plants in the past.

Book Review

Rondeau, J. Hawkeye. *Carnivorous Plants of California*. 1991. 37 Sunnyslope Ave., San Jose, CA 95127, (408) 929-6529. pp. 50, \$15.95 + postage.

The prime purpose of this book, published by the author, is to put together in one place all the historic literature and the author's own field observations on California's CP populations.

Each chapter is devoted to a plant genus after the introductory chapter that takes in consideration the weather, geology and concepts of what constitutes the trapping mechanism of each plant type. In California's Floristic Province, as the author puts it, there are only 9 native species: five bladderworts, two sundews, one butterwort, and one pitcher plant.

All the chapters have the same organizational headings for each genus such as botanical and common names, status as to abundance, a general description, species description, prey and trap function and flowering period. Additional headings such as trapping period and survival strategy, range and habitat and finally associated species rounds out the chapters.

Interspersed throughout the book are three pages with color photos of *Drosera*, *Pinguicula* and *Utricularia* and two pages with maps and a couple of pages with diagrams of the leaf or flower of a CP. The distribution maps are broad enough of both California and Oregon to reveal little clue to where the plants are located exactly and rightfully so. Instead, the author gives a listing of where the plants are on public display and where they can be purchased from local growers.

Finally, a long bibliographic reference list ends this book for those who would like to pursue further information about these fascinating plants.

I found this book to be a fine addition to anyone's collection of CP books since it describes, explains and points out flaws in the information which we seek about these plants.