

BEGINNER'S CORNER

UNUSUAL AND SOMETIMES WORRISOME GROWTH PATTERNS IN SARRACENIA PITCHERS

by Donald E. Schnell

It would be nice if all cultivated plants behaved themselves all of the time, and with proper cultural techniques they usually do. However, occasionally something unusual happens in a growth pattern and the observant grower quite properly becomes concerned. The author, Joe Mazrimas, and several other growers have noted some pitcher growth habits or shapes in *Sarracenia*s that have not been reported previously and we felt that the readership might benefit by these observations and perhaps send some comments about their experiences to share with others.

There is an interesting growth pattern noted in *Sarracenia leucophylla* rather regularly each season, and sometimes also in *S. alata* and *S. rubra* ssp. *gulfensis*. In plants of *S. leucophylla* in outdoor or even greenhouse cultivation in the temperated zone, the spring pitchers are not usually the best. They are often elongate with relatively little hood and mouth expansion, and many are ensiform. Later in the summer and into autumn—often just weeks before the first killing frost!—a beautiful crop of large, nicely formed typical pitchers appears only to be laid low by a hard freeze. Greenhouse plants, of course, retain these pitchers nicely through most of the winter, as do more protected outdoor plants further south. This pattern seems to be of no consequence to the overall health of the plant and in fact very often occurs in nature where the three taxa mentioned grown on the US Gulf Coast. Above ground plant structures usually appear in response to complex situations regarding photo-period (length of light ex-

posure each day), temperatures, water availability, etc. Study of this phenomenon by a student using controlled environment such as in a growth chamber might be very enlightening. Intuitively, the author feels the answer will be found in the pattern of photoperiod and temperature among the many possible variables.

And now to another interesting situation. This one is fortunately more sporadic. During the spring and early summer of 1981, the author received several anxious phone calls and letters from *Sarracenia* growers stating that the pitchers of many of their species growing outdoors and sometimes in greenhouses were severely deformed. The author and Joe Mazrimas discussed this occurrence and both had noted it occasionally in previous years as well. The unusual pitchers consisted of elongate, twisted or spiral, narrow forms with incompletely expanded hoods. Many of the pitchers had depressed dimples or lines across them at intervals, and sometimes only ensiform leaves were produced by species that usually do not produce them in the spring. Nothing had changed with water or potting medium used, and several plants were lifted from the pots to check for root disease, soil parasites, etc., and sample leaves were carefully examined microscopically for mites. None were found. The author noted this abnormality in his moderately heated greenhouse as well as outdoor plants. Joe Mazrimas did not note it as much in his unheated greenhouse but did see it in his outdoor plants. The species mostly affected were

S. flava, *S. alata*, *S. rubra* (note that all subspecies often produce a different spring pitcher than summer pitchers, but these were more bizarre than usual), *S. purpurea* and sometimes *S. leucophylla*.

Two clues were helpful in defining the problem to some extent. One very obvious one was the thankful appearance of completely normal pitchers quite suddenly with the passage of early spring into late spring and early summer. The second was noting the character of the weather during the troublesome early springs.

In both widely separated areas (California and North Carolina), warm weather had come earlier than usual in spring while there was still a relatively short photoperiod. In addition, the warm weather pattern was erratic: Nights were cool, sometimes near or at freezing, and days were quite warm, more like later spring and early summer. This was all coupled with a tendency to less cloudy weather than usual for the season. These warm day/cold night cycles were sometimes interrupted by a brief run of uniformly cool days, but then the warm periods began again.

Since the problem cured itself as the weather and day length fell into more

usual patterns as the season went on, we felt that the problem was indeed related to the earlier spring weather. It seems a classical case of a variation on etiolation due to warm stimulus to growth with inadequate light during the day, and very cool nights arresting or slowing growth. Once the photoperiod lengthened and the nights became warmer, normal pitchers appeared.

Meteorologists inform us that the regular cycles of seasonal weather we have grown used to are in fact aberrant in terms of the long term weather pattern, and that we can expect more cycles as we had in the spring of 1981 (and a few earlier ones), so growers should be aware of this pitcher habit pattern.

We and the readers would certainly like to hear comments and experiences with either of the growth patterns mentioned above, particularly from different parts of the US and the world. The author has also noted the same problems mentioned in letters from folks in England and Australia, so the phenomena are certainly not isolated!

S. flava grown by J. A. Mazrimas with 42 inch/103 cm pitchers. Yardstick for scale. Photo by J. A. Mazrimas.

