Tucker, Gordon C. 1978. Notes on the flora of Rhode Island. Rhodera 80: 596-597.

Among several other plant species, the author reports *Drosera filiformis* as a new record for the state, located near South Kingstown. There were six vigorous plants with about 50 seedlings in a gravel bank along the edge of a pond. (Ed. note — The finding of six plants along a pond margin in a state with no previous reports causes one to wonder: What if the six mature individuals were transplanted there by someone unknown to the author, and the 50 seedlings are the progeny of these plants? It is peculiar there are not more and that there were mature adults and very small seedlings only with no intermediates.)

Short Notes

Some Thoughts And Observations on *Sarracenia*

by Paul McMillan
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In regard to Sarracenias, I feel strongly that the large Gulf coastal plain form of *S. flava* which is larger and more robust than that on the Atlantic coastal plain should be given *varietal* status as *S. flava* variety *Rugelii* as it was described in Bailey's Encyclopedia of Horticulture. It has no anatomical or morphological variations from the type so it doesn't qualify as a subspecies nor is it a mere form since large and consistent populations occupy the area in which it occurs. In addition to being larger and more robust than the type, the really definitive thing that characterizes it is the red blotch of color in its throat (on the column below the hood) and no red venation or red pigment elsewhere. One can certainly observe ecophenic variations in Sarracenias and color *can* be a result of exposure and season of the year. However, when color consistently and hereditarily shows a definite, delimited pattern which is distinctive as in this case, then I believe the entity under consideration is entitled to nomenclatural recognition as a variety in the technical sense of the word. In the Atlantic coastal plain, one can see in the same interbreeding population of a colony of *S. flava* various color forms involving heavier or lighter red veining or general color. These have no real nomenclatural significance and are simply expressions of genetic segregation although, as Schnell has pointed out, they may be "microecotypic" forms and may in the long run be very important evolutionarily especially if they are responses to the man-made modifications of their habitats. I think many striking forms such as the white-flowered variants of some of the pink-flowered native orchids and the all yellowish-green form of *S. flava* are undoubtedly homozygous for recessive genes where color is concerned and this certainly would explain their occasional occurrence in otherwise typical populations. In my own observations, *S. flava* var. *Rugelii* is the only type of *S. flava* to be found on the Gulf coastal plain but this may not be the true situation. To me, it is the giant of the *S. flavas*.

In regard to *Sarracenia* evolution on the old peneplain surface in eastern North America, I think it should be kept in mind that there was really more topographic diversity then than is sometimes

implied. Although the Appalachians probably exceeded Everest in height at the time of their origin during the Permian 200 million years ago judging by the enormous thickness of the erosion-produced sediments eventually produced, even at their period of maximum erosion some of them in the southeast reared over 2,000 feet above the predominating and nearly sea-level peneplain that surrounded them. There were subsequently two other major uplifts of the mountains that disrupted the old peneplains developed during the intervening erosional cycles. Mt. Davis in Penna. (part of the old original Appalchians which survives till this day) reared over a 1000 feet above the peneplains during the time of maximum erosion but toward the south (and the Gulf of Mexico) the elevations were much higher (2,000 feet) and so there was considerable topographic diversity with river valleys and intervening peaks. This would have provided enough isolation between inbreeding populations of Sarracenias to produce some of the present day species. I would hesitate to call all these populations Sarracenias. Very likely they were a now extinct (through evolutionary modification) and primitive precursor pitcherplant genus that ultimately differentiated into *Sarracenia, Darlingtonia* and *Heliamphora* as they migrated to new regions.

I could ramble on a lot longer on this business of *Sarracenia* evolution much of which involves educated speculation and guessing, but which is, I think, very interesting to consider just the same by those of us who are truly and seriously interested in the minute details of these fascinating plants and their origins. Sometime after I study more about southeastern U.S. and South American geology, I hope I'll be able to consolidate some thoughts on this matter and elaborate on it.

One other interesting thought — since the last glacial period was so recent and some fairly recent studies indicate .that the recession of the Pleistocene glaciation from the terminal moraine in the northern U.S. began only 16,000 years ago, the strong indication is that very cold conditions prevailed far to the south in the U.S. Indeed, geological drillings in the Gulf region indicate the presence of cold-water fossil marine faunas (such as certain indicator mollusks) in that region in geologically very recent times. These faunas now exist in the ocean only far toward the north. The indications are clear — the southeastern flora and fauna in the geologically recent past were subjected to far colder conditions than they are today. The fact that they don't occur farther north than they do today is simply because they haven't had the time to migrate very far north yet and edaphic factors hinder this spread, also. For this reason, it isn't too surprising to hear of *Dionaea* and *Sarracenia flava* surviving in Penna. and N. J. and perhaps farther north.

The greatest number of pitcherplant species I have seen in any one given bog was five. In a small bog near Crestview, Fla., I observed *Sarracenia purpurea venosa, S. flava, S. rubra* (Gulf Coast form), *S. psittacina* and *S. leucophylla.* Some hybridization had taken place. I have not been able to find this bog as of recent years because of some road changes but perhaps it is still there. Once, I drove more than 1,000 miles around the periphery of Mobile, Ala. trying to locate all the *Sarracenia* colonies I could. Let me tell you, the suburbs are rapidly eating up these locations and some people who were lucky enough to have beautiful patches of *S. leucophylla* and *S. purpurea* in their own backyards or on vacant lots adjoining their homes told me they just regarded them as weeds! ! Beauty, indeed, often is only in the eye of the beholder. The old adage, "Pearls before swine", though unspoken, came to my mind.

I feel that the ranges of the tall, col-

umnar species of *Sarracenia (S. leucophylla, flava,* and *alata)* once were more limited to specific river valleys and that they have been spreading out and extending their ranges laterally to the east and west and extending into each other's territories. Breeding isolation factors for these partially sympatric species are not very good and hybridization incidence is high. Eventually, though certainly not for many human generations, these three species may eventually end up absorbed into a hybrid swarm. It is very interesting along the Gulf Coast to observe traveling eastward first of all only pure colonies of *S. alata,* then *S. leucophylla* appears and hybridizes with it for a short distance to Mobile. Then, east of Mobile, *S. alata* disappears completely and solid, magnificent stands of *S. leucophylla* predominate and then a few *S. flava Rugelii* (the tall, unveined Gulf Coast variant with a blood-red spot only in its throat) appear and hybridize for a distance with the predominating *S. leucophylla.* Finally, *S. leucophylla* dies out and pure stands of *S. flava* replace it. Through the whole area described, *S. purpurea venosa* occurs, usually sparingly, but *S. psittacina,* though inconspicuous, is generally rather abundant.

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New Jersey Pine Barrens

by Philip Sheridan
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On Tuesday, August 8, my friend Mike Hunt and I met Jim Bockowski at the General Store in Chatsworth for a one day CP expedition in the New Jersey Pine Barrens. The first place we went was south of Chatsworth and could be approached by two sand roads, one of which was blocked. After driving down a winding sand road in Jim's car we reached a suitable place from which to head into the bog.

After going down a hillside we suddenly saw thousands upon thousands of *Drosera filiformis filiformis.* The *D. filiformis* were growing on a mat of sphagnum moss, which lay on a sand base. The sphagnum mat is right along a tea colored river which is fed by springs percolating through the sphagnum mat. Intermixed with the *D. filiformis* were *Sarracenia purpurea, D. intermedia, D. rotundifolia,* and a species of *Utricularia,* all readily visible. Cedar trees grew thickly on the river bank and a few in the bog resulting in a very picturesque scene, complemented by water lilies and bladderwort flowers. There were so many *D. filiformis,* and for that matter every CP, that one could not help but step on them. In a way this crushing of the droseras may be beneficial in that the broken leaves might bud into more plants. The *D. filiformis* almost glow in the right light conditions, a yellowish-red color being most readily apparent.

This mat of sphagnum continued for some distance up the river and we followed it for quite some time. After searching for awhile we came upon *D.* x *hybrida* which was somewhat difficult to find due to the number of plants in the area. There was only one clump of *D.* x *hybrida* that we found, but I am certain there must be more in this area. As we continued our search of the area we came to a bank about six feet long and two feet wide which was totally covered with *D. rotundifolia,* an amazing sight. Moving along we came to another unusual sight; at the base of a cedar tree a spring had managed to poke its way through and fall about one foot from inside the