

Literature Review

Bulletin of the American Rock Garden Society. 50(1), Winter, 1992

We are reviewing pertinent articles from this issue of a bulletin under one title for convenience and because of the relatedness of the articles.

The cover features a full color painting of a *Sarracenia* hybrid by Rob Proctor of Denver, Colorado, and the rendition is of excellent quality.

The first article related to our interests is by CPN co-editor emeritus Larry Mellichamp and entitled "Hybrid Pitcher Plants" (pp. 3-10). The author has a brief introduction on growing bog plants in general, and then comments on the nature of sarracenias, species, history, etc. The bulk of the article is an interesting summary of his work in producing horticultural hybrids of sarracenias, or selecting them from field plants in some cases. In this process of production, one makes a cross between two selected plants for prime characters desired, germinates all the resulting seed (ideally), and the carefully selects which few of the progeny are worthy of vegetative propagation as horticultural hybrids. The remaining discarded plants are sold at annual plant sales at the UNCC Botanical Gardens in Charlotte, NC. Larry mentions that he and others are attempting all the possible sarracenia crosses, and lists the results of interest thus far including several published horticultural hybrids. He mentions difficulty retaining sterility in attempted tissue culture, so at this point must rely on the slow natural growth and division of plants which results in few progeny at this time.

The next article by Roberta Case is entitled "A Sphagnum Bog Garden" (pp. 11-12) in which the author mentions a few salient features of sphagnum bogs in general and then describes her construction of one adjacent to a pond on her property. A unique feature is her bypassing the need for purified or native hard water (which would destroy the live sphagnum) by siphoning aged water from the adjacent pond in a permanent siphon setup which is clever. Tap or hard water is used to replenish the pond as needed, but dilution and chemical changes of aging render the water ultimately safe for sphagnum.

The third article of interest is by Fred Case and entitled "Bog Gardens and Bog Plants" (pp. 45-46). This is actually the first of a two part installment and the second promises more specifics. The first part here gives main principles including soils, water, use of water courses or artificial waterfalls, light, etc.

The issue also has numerous well printed color photos of sarracenias in pots, bogs, gardens, etc. There are some labeling problems which were hand corrected by the individual supplying my copy, but these are not many at all. There are several other articles on water gardens, waterfall construction, etc. ARGs may be of interest to many of our readers since such plants and natural areas studied by members of ARGs are also companion to CP and their areas. For information about membership or individual issue purchase, write: Secretary, ARGs, PO Box 67, Millwood, NY 10546.

Chitty, F.D. 1990. Plantas insectívoras del estado Cojedes, Venezuela. *Acta Botanica Venezuelica* 16: 39-47. (In Spanish)

The State of Cojedes is located south of Caracas, far from the tepui country. One *Drosera*, *D. sessilifolia*, and five utricularias, *U. alpina*, *U. simulans*, *U. pusilla*, *U. foliosa* and *U. cucullata* are listed and a key given along with line drawings of each species. *U. foliosa* is by far the most common of the utricularias. (DES)

Cribb, A.B. 1987. An aquatic fungus from pitchers of *Nepenthes mirabilis*. *Qd. Nat.* 28:72-73.

While visiting nepenthes habitat along the Jardine River, the author noted a fungus in mycelial phase both free in pitcher fluid as well as attached to chitinous

remains of insects. A sketch shows a branching septate mycelium of rather non-specific appearance. Fruiting bodies and cultural characters were not discerned at time of printing. There apparently had been no previous record of an aquatic fungus from within a carnivorous pitcher cavity. (DES)

Folkerts, George W. 1989. Facultative rhizome dimorphism in *Sarracenia psittacina* Michx. (Sarraceniaceae): An adaptation to deepening substrate. *Phytomorphology* 39:285-289.

The author describes the situation where rapid accumulation of substrate (eg. growing sphagnum moss in which the plant is growing) seems to induce the development of a more elongate, rapidly growing branch of the usually nearly horizontal rhizome which is nearly vertical and tends to result in new leaves appearing above the substrate. This structure is termed a stolonoid, which also develops its own roots.

MacRoberts, M.H. and B.R. MacRoberts. 1991. The distribution of *Sarracenia* in Louisiana, with data on its abundance in the western part of the state. *Phytologia* 70:119-125.

_____. 1991. Floristics of three bogs in western Louisiana. *Phytologia* 70: 135-141.

These two papers by the same authors on the same general subject and in the same issue are reviewed together. They follow up on previous *S. alata* and Louisiana bog research reviewed in previous issues of CPN.

The first paper outlines the general ranges of *S. alata* and *S. psittacina* on a state map with parish outlines. *S. alata* is present in bogs along the western border and in a smaller area on the southeastern border of the state, the latter area containing the populations of *S. psittacina*. Older reports of other species are discounted, most after a review of herbarium sheets. Vouchers show specimens of *S. purpurea* from the last century, but the locations have not been refound. Most of the bogs are hillside seeps that are locally common but most are severely degraded, mostly by human activity.

The second paper describes three bogs, only one of which contains *S. alata*. Floristic and soil analyses are presented. The bogs are very close to one another. Floristic diversity is far less than savannas in the Carolinas. The pitcher plant bogs generally is somewhat more acid than the other two (pH 5.0 against 5.8 and 5.3) and has lower levels of calcium, potassium and phosphorus. All three bogs are somewhat less acidic than bogs described in previous papers. (DES)

Studnicka, Miloslav. 1991. Interesting succulent features in the *Pinguicula* species from the Mexican evolutionary centre. *Folia Geobotanica et Phytotaxonomica* 26: 459-462 + Pl. 10-13.

The author describes results of sections of Mexican succulent *Pinguicula* leaves. The presence of chlorophyll cell sheathing of vessels strongly indicates C4 photosynthesis. The upper (adaxial) leaf portion in cross-section contains mostly colorless water storage cells, while the lower (abaxial) contains additional photosynthetic cells. These findings apply to the succulent winter rosettes. (DES)

Zamudio, S. and J. Rzedowski. 1991. Dos especies nuevas de *Pinguicula* (Lentibulariaceae) del estado de Oaxaca, Mexico. *Acta Botánica Mexicana* 14: 23-32. (In Spanish)

That famous Mexican state of Oaxaca, location of so many *pinguiculas*, is now the location of still two more rather interesting species. The state must be quite large and have relatively inaccessible areas to continually yield additional species.

Both species, while somewhat similar in affinities to *P. moranensis*, are sufficiently different in the author's judgement to warrant their own generic section, *Longitubus*, this due to the longer funnellform floral tubes.

The first species, *P. hemiepiphytica*, is most commonly found in the usual temporarily wet sandy rock areas, or on mossy rock seeps, but has the interesting habit of being occasionally epiphytic on the bared roots and trunks of trees. There is a note appended to the paper in which the authors acknowledge that after going to press, a note by two Austrian botanists (Speta and Fuchs, *Phyton* 29: 93-103, 1989) had just come into print describing a similar plant in generally the same area as *P. laeana*, and that the plant is growing in the botanical garden in Linz. There may be a name precedent problem here if these are conspecific; however, Zamudio and Rzedowski state that the Austrian paper's plant description and location data are too vague to be sure at this point but that further study is warranted.

The second species, *P. utricularioides* (the authors are to be congratulated for their descriptive epithets!) has the usual dimorphic leaf pattern expected of Oaxaca pinguiculas. The small winter leaves are thin and very small with a loose rosette pattern that superficially look very much like any of several tropical *Utricularia* leaves. The summer leaves are unique in that they have a spoon or scoop-shaped deep depression in their tips, looking somewhat like the intermediate leaves of *Cephalotus*. The article is accompanied by very good line drawings. (DES)

TIDBITS

BY
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