

# Literature Review

**Chapin, Car. and J. Pastor.** 1995. Nutrient limitations in the northern pitcher plant *Sarracenia purpurea*. *Can. J. Bot.* 73:728-734.

The authors preface their studies by noting that fertilization and nutrient budget studies of CP are rarely done. (Ed. note--There have been some good ones). Plants in the field were treated with various combinations of nitrogen and phosphorus compounds, controls and insects, and noting counts of pitcher formation over four months of summer as well as leaf quantitation of nitrogen and phosphorus compounds at the conclusion of the experiment (plants were thus sacrificed). Insect exclusion, where desired, was accomplished with glass wool. Rain was also a passive treatment, and artificial treatments were applied once at the beginning. The studies indicate to the authors that the plants acquire only 10% of their total N and P requirements from leaf capture. (Ed. note--This study is seriously lacking and one must read the whole paper to appreciate this; quoting the abstract is very misleading. For one thing, potassium should also have been studied in conjunction with N and P compounds and the micronutrient mix that was used in their various combinations. Several studies have suggested that K may also be limiting. Concentrations of applications were at best arbitrary. Many pitchers, as the authors noted, suffered from the glass wool plugging. Also, the authors completely failed to take into account possible rhizome storage and tapping of such stores during environmental and experimental deficiencies with possible movement of N and P to the leaves. The most glaring error is doing such an experiment on the plant set only one season--What effects on future pitcher growth over the next several seasons? How about flowering over several seasons? Seed yield? Where are the vaulted reviewers and referees when you need them?)

**Haines, Arthur.** 1994. Key to the genus *Utricularia* (Lentibulariaceae) in Maine, based on vegetative characters. *Maine Naturalist* 2:47-49.

The author presents a key to utricularias in Maine based on vegetative characters in case flowers are missing from specimens being examined in the field or in herbaria. (Ed. note-- The obvious question is, why state keys for this genus anyway? Suppose something new for the region, state, etc. is found? Would not one want a nationwide key? The genus is not that large that a national key is unmanageable. There are errors. *U. vulgaris* is mistakenly used for *U. macrorhiza*. Also, inclusive sets of numbers do not contrast well in a key. Differentiating something based on "usually 2 (that is, 0-2 inferred)", and 0-4 is not helpful. If you have limited material and the number of the character in it is two, is it in the 0-2 or the 0-4 set?

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The author's bibliography is glaringly deficient. Taylor's 1989 opus apparently was not obtained and studied for this, let alone cited--This is unacceptable in this kind of work. Your best bet for both floral and vegetative keys is the nationwide one by Taylor in CPN 20:8-20, 1991).

**Krabulcová A. et Jarolímová V.** 1991. Relationship between *Pinguicula bohemica* KRAJINA and *Pinguicula vulgaris* L. (Lentibulariaceae) from the karyological point of view. *Preslia, Prague*, 63: 323-328.

An article about the same subject has been published in CPN (Studnicka et Hejny, CPN 21: 64-67). This is to compare both papers, because there is a discrepancy in conclusions. According to Krahulcová and Jarolimová, 2n is 64 chromosomes in

*Pinguicula bohemica*, but according to Studnicka and Hejny  $2n=32$ .

There is a question, of different ploidy levels within the species. That phenomenon is known, e.g. in *Helianthus decapetalus* ( $2n=34$  and also 68), *Coreopsis lanceolata* ( $2n=24$  and also 48) and many other plants. Comparing photograph 1a and the proper explanatory diagram in the article by Krahulcová and Jarolimová (p. 326), one can easily discern two suspicious clues: 1) The chromosomes in the upper left corner and also in the lower right corner belong to adjoining cells (the cell wall of the central cell is evident), 2) the authors included several times more deeply coloured parts of the same chromosome as different chromosomes.

The explanation given by Krahulcová and Jarolimová, that  $2n$  must be 64, was probably deduced from fixed agreement with authorities, which take for granted a close relationship of *P. bohemica* and *P. vulgaris*.

## ATTENTION

Phil Mann is attempting to compose a list of *Nepenthes* Species and hybrids as a reference to named species, hybrids and cultivars but he need any input that anyone has available. He hope to be able to offer the reference list for the cost of a disk and postage. So far there is a composite list of 23 pages. Any information to Phil Mann, P.O. Box 193 Harvey, 6220, West Australia.

## "Important Notices"

In the source list from the June 96 issue of CPN we need to make a address correction. It should read as follows:

Orgel's Orchids  
18950 S.W. 136th Street  
Miami, Florida 33196

*Dionaea muscipula* 'Akai Ryu' Distribution

Ron Gagliardo, Atlanta Botanical Garden

Just a quick word of thanks to those who purchased our new all red *Dionaea*. The response was terrific and the support of our conservation program very much appreciated. We're looking forward to the next distribution and will post it in a future CPN. Thanks again and I hope everyone enjoys there plants!  
Ron Gagliardo