

pitcher fluid itself. The fluid is thick and exceptionally viscous compared to most *Nepenthes*. You can pour some from a pitcher held several feet high and it will keep in an unbroken stream to the ground. Thus when it rains the pitcher sheds the excess water over its rim but its contents are secure. From these observations we can see how wonderfully adapted to a life of carnivory *N. inermis* really is.

N. rhombicaulis on the other hand has no upper pitchers only lowers. These lower pitchers occur from ground level to no more than 2 feet up the stem while the rest of the stem climbs high into the tree tops. The upper stem does not form pitchers on the ends of its tendrils and its only used for climbing.

N. rhombicaulis appears to be adapted to a life of catching ground dwelling insects but more specifically the subterranean ones. Pitchers found above ground are usually small (5cm) and have a thin peristome while those formed in dense moss or in very dark conditions grow larger (10cm) and have quite a large flared peristome, CPN 19(1&2):21. In habitat, the rosette leaves are fairly short and the tendrils are pushed into nearby mounds of moss. When the moss is pulled away a large pitcher is revealed. In cultivation, it seems that to grow the large pitchers the developing pitcher needs darkness and some kind of restriction before it can attain a large size (i.e. down the inside of the pot). It is also necessary that some of the plant be exposed to light as all plants need to photosynthesize to survive. This carnivorous adaptation reminds one of *N. ampullaria*. The contents of these subterranean pitchers were not examined but we will do so on our next visit to prove our theory.

Color Variation of *S. Purpurea* in a Northern Michigan Bog

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While bogging in Michigan's Luce Co. in the summer of 1991, Gary Thieme and I came upon brightly colored plants of *S. purpurea* growing in full sunlight. The plants had a more yellowish appearance and lighter venation than what is typically observed. This made a pleasant display of yellowish and typical reddish plants throughout the bog. There was no success in finding a plant without red coloring. Some plants were blooming with yellow flowers (not in full bloom yet) but had fine red-veined leaves, this was certainly eye catching when growing next to the typically heavily veined *S. purpurea*.

A year later a more thorough investigation of the area was made. Unfortunately, late spring frosts had made it a poor flowering year and our hope to find *S. purpurea f. heterophylla* as a whole plant was diminished. About four plants from several locations were candidate plants of *S. purpurea f. heterophylla*, none of which were blooming. One plant I collected for close observation. Roughly half the plants in all locations were the typical red color while the other half were the yellowish-red plants.

One very interesting location had a highly contrasting color difference. Here *S. purpurea f. heterophylla* candidates were found and very deep red plants could be found even in the shade. Even if it turns out not to be a *S. purpurea f. heterophylla* location it is certainly an eye-catching sight.

Fred Case examined the plant I collected and said it looked liked *S. purpurea forma heterophylla* and that a flowering plant would be better for confirmation. All plants in the photographs were growing in full sunlight.

References

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 2. Case, F.W. JR. 1956. Some Michigan records for *Sarracenia purpurea forma heterophylla*. Rhodora 58:203-207.
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Nepenthes Growing Media

By

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The subject of growing media for *Nepenthes* has not been extensively explored. Frequently, writers cover the subject with a generalization. Such sources often contain general references to long fiber sphagnum. This observation, incidentally, is not entirely directed at others. For example, a prior note, CPN 16:83-87 (1987), surveyed some cultural variables for growing *Nepenthes* under lights, but made only a summary reference to long-fiber sphagnum as a growing medium. Certainly, long fiber is a good starting point for discussion, but there are some choices and alternatives. These choices become more important as the *Nepenthes* collection expands from the generally available, easily grown varieties, to rarer and more difficult species or hybrids.

True, many *Nepenthes* species and hybrids take well to long fiber sphagnum, as well as a variety of other growing media. However, sphagnum is not infallible. In particular, sphagnum can become waterlogged. This condition can lead to root rot. I have lost specimens of *N. reinwardtiana* and *albo-marginata* using this medium, apparently because of waterlogged root systems. Thus it is sometimes desirable to have a medium which provides greater aeration and drainage than pure sphagnum. Indeed, as one gets away from the more commonly grown species and hybrids, several species demand a medium which, for all practical purposes, is an epiphytic mix. This requirement suggests that some orchid media, either alone or mixed with sphagnum, have some relevance to growers of *Nepenthes*.

Interestingly, the orchid world has discovered that many orchids do well in sphagnum or sphagnum mixes. One of the larger suppliers of growing media and potting supplies to the orchid community is OFE International. Of course, if one is an orchid grower, there is sphagnum and then there is sphagnum. The hot item in the orchid world currently seems to be New Zealand sphagnum moss. OFE, in a recent catalog, offered NZ long fiber in 1/4 cubic foot bags, one and five kilo boxes, as well as NZ short fiber. Moss is shipped dry, and a one kilo box is pretty good size for a hobbyist. An article in the March, 1989 American Orchid Society Bulletin, titled "The New Sphagnum Moss from New Zealand", by Ann and Jim Mann, discusses the advantages of New Zealand moss. According to the Manns, NZ moss is a robust, resilient species, *Sphagnum cristatum*, which grows in the Pahiki swamps of New Zealand's south island, reaching a height of several inches. It is clean when harvested, according to the Manns, and also is picked over to remove leaves and debris. My experience is that NZ moss is indeed freer from leaves, sticks and grass than moss from domestic sources. I have no independent knowledge on this subject.