

produced. It appears that selfing may be the mechanism at work. Further observations as well as crossings and exclusions are planned to determine which pollination mechanism is acting and how effective it is.

Any ideas or information on these tropical *Utricularia* and their life histories would be most welcome.

ROBERT ZIEMER (P.O. Box 4562, Arcata, CA 95521). For the past 3 months, I have been carefully cross-pollinating the flowers of *Heliamphora heterodoxa* and *H. nutans*. So far I cross-pollinated 10 flowers and I believe that

seven of the ovaries are enlarging and the seed capsules appear to be developing normally. Last year, I self-pollinated *H. heterodoxa* and obtained over 100 seeds. I subsequently sowed 30 of the seeds and obtained 28 seedlings — a 93% germination!

I have observed that the stamens of my *H. heterodoxa* spontaneously dislodge and fall off the receptacle within a week after the petals open, whereas the stamens of *H. nutans* remain fixed to the receptacle for the duration of the flower and are difficult to dislodge or remove from the receptacle even months after the petals

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Review of Recent Literature

Adams, Richard M. 1978. Plant propagation by tissue culture. *Am. Horticulturist* 57(2):28-29.

A very good review of the general principles of propagative plant tissue culture with references to lead the interested reader into more depth not possible in an article of this length. This process assumes more importance as horticultural interest in CP increases and places a strain on natural populations and traditional propagation techniques.

DeBuhr, L. Wood anatomy of the *Sarraceniaceae*; ecological and evolutionary implications. *Plant Syst. Evol.* 128: 159-169 (1977).

A considerable number of primitive features characterize the wood of the family, *Sarraceniaceae*. Vessel elements in the genus *Heliamphora* have the greatest number of primitive features and *Darlingtonia* and *Sarracenia* appear to have modifications relating to temperate climates. All of the wood is similar to the wood of the order *Theales*.

Christensen, N. The role of carnivory in *Sarracenia flava* L. with regard to specific nutrient deficiencies. *J. Elisha*

Mitchell Sci. Soc. 92(4):144-147 (1977).

Leaf tissue of *S. flava* was analyzed for total content of nitrogen, phosphorous, calcium, magnesium and potassium. Plants grown in nutrient deficient environments had lower contents of the above elements but insect-fed plants showed much higher concentration of nitrogen and phosphorous but not the other three elements.

Rost, K. & Schauer, R. Physical and chemical properties of the mucin secreted by *Drosera capensis*. *Phytochemistry (OXF)* 16(9):1365-1368 (1977).

There is only one polysaccharide macromolecule in the secretion of this CP with a molecular weight greater than 2 million. It exists as a 4% solution in water of an acidic polysaccharide containing xylose, mannose, galactose, glucuronic acid and ester sulfate in the ratio of 1:6:6:6:1. Although protein is absent the mucin contains calcium, magnesium, potassium and sodium cations. The mucin from *Drosera binata* has similar properties.