of pH or acidity level is 6.4 - 7.0.

2. Outdoor culture: Into a large water lily basin, made large as possible, place a layer of acid soil and plant various water plants such as Iris laevigata, Typha latifolia and Sagittaria. Fill the water to a depth of eight inches. Set up this basin in full sunshine and leave it alone for one to two months to observe if the above plants are growing well and the water becomes clear. It is then suitable for growing Aldrovanda. One may also use dead plant material of either rice stems or that of Phragmites or Typha when available. The stems are chopped into two-inch length, and one to two handfuls of dead material are added per gallon of water, and this is repeated three times a month. An excess of dead material is not damaging and if the water turns yellowish like beer, it indicates acidity and is good for the plants. If the water color turns blackish, it indicates the water is bad and needs changing soon.

3. Indoor culture: This method makes use of a tropical fish aquarium which should be large as possible into which one puts a layer of fine river sand that's acid in nature. Add rain water or distilled water for best results, but if you use hard city water, the pH must be corrected to about pH=6 by adding dilute sulfuric acid and leaving it alone for a few days. We have inexperience in the use of distilled water but it is possible that diluted Knop solution (1/10) produces good results. Aeration should be used using an aerator that produces fine bubbles to keep the water constantly refreshed. The temperature should be kept at 80° F. and not over 90° F. A plant-growth light like Gro-lux should be used for best results since insufficient light causes weak growth. If you wish, a small amount of Daphnia (living water flea) should be added as food for Aldrovanda. An excess amount will contaminate the water. Brine shrimp could be experimented with but the excess chloride ion is detrimental to the species. Chopped rice-straw should be added to the water as fertilizer. The aquarium glass can be cleaned naturally by adding pond snails or Red snail, paper shell as you do in an ordinary fish aquarium. If algae, as Spirogyra is present, it should be removed by tweezers as much as possible. It inhibits Aldrovanda's growth and means that the pH of the water is changing into the alkaline range. Although burnt Alum (Aluminum oxide) kills algae, it is not a desirable means of controlling it.

4. Supplementary information: In the outdoor culture, water levels decrease by evaporation and a fresh supply of water should be added from a watering can every evening. Consequently, the water is partially renewed with good results. When the plants fill the total surface of the water, they stop elongation by branching. At this time, the culture should be divided into two portions for use into another container. It is due to secretion of an organic acid by the plants which inhibits growth at this stage.

Typha latifolia = broadleaf cattail Sagittaria = arrowhead

GROWING DROSERA AURICULATA

by Leo Song

In the fall of 1972, I received several dormant tubers of Drosera auriculata. These were immediately planted in a mix consisting of 2:2:1 parts by volume of peatmoss, #20 quartz sand and decomposed granite gravel (1/8-1/4 ins.) respectively. Supplementary fertilizer in the form of bonemeal and dolomite powder was added at the rate of 1 level tsp/gal mix. The tubers were planted about 1/2 inch deep and watered thoroughly with distilled water. They were then placed in the lath house and no attempt was made to protect them from frosts or rains (California).

By about February of 1973, one of the tubers had sprouted and by mid-March, was in flower. By this time a second tuber had sprouted. The second one was in flower about May and was smaller - only one flower and seedpod being produced. Meanwhile, the first plant produced three flowers and three seedpods and they apparently were self-fertile. When the seedpods on the plants have ripened, I decided to check on the progress of tuber formation. (See CPN 1 (4): 59) By carefully digging down beside the stem, I encountered the old tuber and the stem of the "dropper" which led to the new tuber about 1/2 inch lower.

According to Vickery (1933), this is the method by which tubers work their way down into the ground. The tuber is actually formed at the apex of a generally downward growing stem (the "dropper"), which after growing downwards for a given distance, the growing tip then becomes inverted (facing upwards) and begins to swell. After reaching a certain depth, the tuber for the following year is produced beside the old tuber on a very short "dropper" stem. In most cases, then, the old tuber is exhausted and eventually dies, but the new tuber takes over next year. Formation of the new tuber depends on favorable conditions. The new tubers on my plants were slightly larger than the old ones, both being about 1/4 inch in diameter. The pot is now set aside and kept dry until fall rains. Several tubers didn't sprout last time but they are apparently alive with at least one producing a tuber on one side.

Literature reference: Vickery, Joyce. 1933 Vegetative reproduction in Drosera peltata and D. auriculata. Proc. Linn. Soc. N.S.W. (Australia) 58, 245-269.