addition several others which were self sown. They all germinated on the same medium, which was commercially available German Floimo brand peat. No seeds have germinated on any other medium. I have tried to use fresh seed, sow them immediately after ripening, use peat, preferably the type named, and stand pots continuously in water to two inches deep.

The original seedling in its second season now has pitchers about one-half inch long and is doing quite well.

DROSOPHYLLUM LUSITANICUM FROM SEED
by Leo Song, Jr.

I grow Drosophyllum lusitanicum from seed and transplant the seedling (usually after two to four true leaves have grown) either into a small "liner" or directly into a one gallon container. It grows very well outside (Los Angeles) with morning sun and traps many insects in its sticky tentacles. The soil I used is composed of 50% silica sand (#20); 25% decomposed granite gravel (size between 1/8 and 1/4 in.); 25% peat moss all mixed together by volume. To each gallon of this mix, I add one level tsp. of dolomite powder. Rain water or distilled water is used to moisten for better mixing and also for watering. Another mix that Drosophyllum will also grow in is composed of 50% peat moss and 50% perlite (Sponge rock) grade #2, which being very light, is ideal for mailing small potted plants. One level teaspoon/gallon dolomite powder is also added.

I was somewhat disappointed to find that many plants die after flowering and fruiting abundantly, usually in their second year of growth, and therefore seem to be biennials. (This is contrary to many literature references. Std. Cyclopedia of Hort. and Das Pflanzenreich do not clearly state either way.) It is interesting to note that this species can take light frost (30-32° F./-1 - 0° C).

Since this species comes from coastal Portugal and Northwest Africa (Morocco) which have a climate similar to California, Drosophyllum should be grown under relatively temperate, frost-free conditions. Much of the Drosophyllum in cultivation is distributed by botanic gardens in Lisbon and Coimbra. Average temperatures for Lisbon run somewhat lower than Los Angeles and Perth. With respect to precipitation, all the above areas have a dry summer and a wet winter. Most plants native to these areas grow during the rainy season and therefore at moderately low temperatures. Therefore, Drosophyllum and many of the tuberous Australian Droseras (many from around Perth) can be grown outdoors in relatively temperate and frost-free locations (Pacific coast of California, for example). If these species must be grown under glass, it should be in a cool, well-lit house.

I noticed that Drosophyllum grew best in the spring, when the weather was cool and moist, reaching a low point in July and August when many of them died. One problem was encountered during the cool moist growing season. If rains were prolonged and the old dried leaves stayed moist, a fungus infection would often get started and spread to the stem eventually killing the entire plant. Water should therefore not be applied where the old leaves would stay moist or

accumulate in the area of the crown.

With regards to irregular germination of seed, I have tried stratification with some germination under refrigeration after about nine months, but results on total germination are as yet inconclusive. I have not tried the method recommended by Mazrimas (CPN 1:1). Seed was sown in the silica sand mix in a small flat with a screen bottom instead of the normal solid wooden bottom. Drosophyllum seedlings produce a rather long tap root which will grow through the screen bottom. The root tip dies with the resultant stimulation of secondary roots farther up. This results in a more branched root system, which is necessary for successful transplanting.

SOME TAXONOMIC PROBLEMS IN THE LENTIBULARIACEAE, ESPECIALLY UTRICULARIA. Systematic Seminar, Duke University, Durham, North Carolina. November 1, 1972.

Speaker - Katsuhiko Kondo

This is a brief summary of the above seminar. The speaker does not accept Barnhart's infragenera and Komiya's classification which is modified from Barnhart's treatment, because there are so many intermediates which are difficult to place, as well as being unnatural in most parts. Characters such as vegetative structure, leaf form, branching and so on are essentially useless in systematic treatment in the Lentibulariaceae, especially Utricularia. In Utricularia the speaker feels it is very dangerous to prepare a systematic treatment using herbarium specimens only without using living or preserved materials, because polymorphism in some species of this genus is very common and certain morphological variations of vegetative structures in species can be correlated with differences in habitats. Biosystematic studies are essential in this genus. The speaker explained two examples of biosystematic studies in Utricularia.

Experimental studies on the seedlings of Utricularia are very much lacking, especially in seed anatomy. The term "Cotyledonoids" in Utricularia was discussed. Interesting photographs of cross sections of seeds of Utricularia, which suggest seeds of Utricularia may not have either embryo or endosperm (perhaps embryo is lacking or too small to be observed), were shown.

Finally, the speaker explained natural species relationships in Utricularia studied at the chromosome level.