

The leaf of this species is composed of two lobes somewhat resembling *Dionaea* but no glandular structures or trigger hairs were noted and it was concluded that the species is non-carnivorous. DES

Johnson, CW, 1985. Bogs of the northeast. University Press of New England (Hanover, NH 03755, \$12.95 paper), 269 p., illustr.

This is a fine book that should be in the hands of serious CP enthusiasts who have an interest in field ecology as well as culture. The book is written at the layman level but contains a wealth of information on bogs (or peatlands, as the author correctly prefers) of the Northeastern United States, and also can be applied to bogs of the Midwest and Eastern Canada. There is a good discussion of bog classification and nomenclature with illustrations and diagrams. This is followed by chapters on the ecology, plants and animals of the bogs, including a short chapter on CP. There are many black and white, and color photos. There is a good bibliography, and the book concludes with a list of monitored and protected bogs which the reader

may visit in the Northeast. Of considerable interest is the quality of writing and approach—the author imparts his sense of wonder and mystery about bogs and being in them. DES

Kondo, K., Three new species of *Drosera* from Australia. Bol. Soc. Broteriana 57(2): 51-60 1984.

Three species of *Drosera* belonging to the *D. petiolaris* family were described. They are *D. dilatato-petiolaris*, *D. falconeri* and *D. lanata*.

Simola, L.K., Koskimies-Soininen, K. & Tomell, M. Glycolipids of turions and leaves of *Utricularia vulgaris* at different stages of development. Physiol Plant 65(1): 23-26 1985.

After the turions of *U. vulgaris* were germinated in long-day conditions, the glycolipid composition was compared with resting turions. No great changes were found in glycolipid classes during sprouting but there were differences noted in fatty acid proportions.

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## Mutant Flies-A Feast for One's Carnivores

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The common fruit fly, *Drosophila melanogaster*, serves as an excellent source of nutrition for carnivorous plants. Through studying *Drosophila*, scientists have proposed models for the genetic mode of inheritance in higher organisms. Fruit flies can also serve as a constant supply of live food for CP. *Drosophila* are easily cultured, readily available, and require minimal space, mess, and expense.

*D. melanogaster* unlike the common housefly, *Musca domestica*, is only several millimeters in length and free of disease-carrying microorganisms. Thus hundreds of flies can be grown in a small culture vessel.

A starter culture is purchased from Carolina Biological Supply Company. The minimal materials required are a vial of flies, culture vessels, and a nutrient medium.

Carolina Biological has developed an ultimate patented formula that requires no sterilization of the medium. Equal volumes of Instant *Drosophila* Medium and distilled water are added to the culture vessel, along with a few grains of dried Brewers yeast. A harmless blue dye is added to the medium to aid in visualization of the larvae. The medium congeals within a minute, flies are introduced, and the vial is plugged. Plastic polyurethane foam or non-absorbent cotton make sufficient plugs. Plastic inserts are also added to the culture vessel to increase surface area.

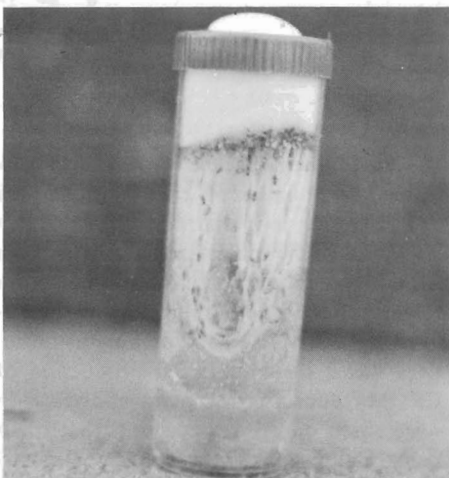
*Drosophila* cultures should be kept at an optimum temperature of 20-25°C, (68-77° F). The generation time is approximately two weeks. It is generally recommended that cultures be grown at the lower limit of this

range, since higher temperatures are conducive to the growth of bacteria, fungi, and mites. Therefore, maintain two "parent" cultures to ensure a continued supply of flies.

*Drosophila* normally have red eyes, wings, and are capable of flight. These characteristics are the normal or wild-type, commonly found in nature. The culture of wild-type *Drosophila* can be a nuisance since the flies must be anesthetized prior to feeding. The anesthetic commonly used is ether. Ether is a hazardous compound since it is quite volatile, highly flammable and forms explosive peroxides upon standing. *Drosophila* need not be anesthetized at all if mutant flies are utilized.

Mutations are inheritable changes that occur in the chromosomes of all living organisms. Mutations can occur spontaneously or via chromosome damage by radiation or chemical means. *Drosophila* mutants have changes in eye color or shape, presence or absence of body hair/color, wing shape and form. The most "convenient" mutation for our purpose is a change in wing structure that impairs flight. Wing mutations of *Drosophila* are referred to as apterous, curly, curved, miniature, vestigial and wrinkled. There are also combinations of mutations such as vestigial wing/white eye, brown body/vestigial wing, white eye/minia- ture wing/forked bristles, etc. Since these mutants are incapable of flight, no anesthe-

sia is necessary. The flies may simply be "sprinkled" upon the CP. It is fascinating to watch the carnivores lure the mutant victims to their inevitable fate.



Living *Drosophila* culture. Note various stages of life cycle are evident: larvae, pupae, adult.

## REFERENCES

1. Flagg R.O., *Carolina Drosophila Manual*, Carolina Biological Supply Co., Burlington, N.C. (1981) pp. 5-8.
2. Curtis H., *Biology* Second Edition, Worth Publishing Inc., New York, N.Y. (1978) pp. 1020.



Minimum materials for the cultivation of fruit flies: nutrient medium, culture vessels, plugs, plastic inserts and caps.