specific epithet (often erroneously called the species name). For example, the scientific name of yellow pitcher plant is *Sarracenia flava* (Latin names are always italicized in print, or underlined in writing and typing). *Sarracenia* is the genus, or generic name; *flava* is the specific epithet, and grammatically it is an adjective modifying the generic name. *Sarracenia flava* is thus the name of the species, or one particular type of the several pitcher plant types in the genus *Sarracenia*. The species name, which may be abbreviated *S. flava*, is made up of a combination of the generic name and the specific epithet. (The family name, the category to which genera belong, in this case would be the *Sarraceniaceae*, or pitcher plant family. It is analogous to the Smith family, with its members Smith, John; Smith, Judy; and Smith, Johnny analogous to the scientific name *Sarracenia flava*). Hopefully both parts of the scientific name will convey some useful or interesting information about the plant it represents to help make it easier to remember. In this case, *Sarracenia* is the Latinized form of the man's name, Sarrazin, who first discovered the purple pitcher plants in Quebec about 1700; *flava* (correctly pronounced fla'-va, *both* a's as in car) is Latin for yellow. There are rules for Latin pronunciation, but they are sometimes disregarded in favor of personal preference. In general every letter and every syllable is enunciated, with emphasis on the third from the last syllable. For additional information on the meanings of the scientific names of some CP's see Don Schnell's new book on the CP of US and Canada.

In some cases species may be broken down into subcategories which may be designated as subspecies, variety, or form; and a certain plant may thus have a name consisting of three parts, such as *Sarracenia purpurea* subspecies (abbr. ssp.) *venosa*, the southern counterpart to the northern *S. purpurea* ssp. *purpurea*. In this case, the species *S. purpurea* is considered by many to contain two recognizably different types. While I personally believe that these additional categories have specifically defined applications, their use can be quite controversial, arbitrarily applied, and otherwise questionable because the *rules* do not govern their exact application; but they do exist among CP names, and you will run across them constantly.

We will not go further into the intricacies of the Code as it applies to the definitions of names. For an excellent discussion of this subject see C. Jeffrey, 1968. *An Introduction to Plant Taxonomy*, esp. Pp. 62-93.

REVIEW OF RECENT LITERATURE

Anon. (We would be, too!) 1976. Venus Flytraps. Science Digest, Dec., p. 81-2.
This is the sort of few paragraphs one should avoid and is herein reviewed as such. Typical of most of the "Digest" type magazines, and in an effort to be "cutesy," the paragraphs are full of misinformation and misguidance for those who are likely misguided already. One gains the impression that the plant trots about the house like the family cat, fending off vermin. One also learns that when he goes on vacation, he should simply put his plant in the refrigerator. One also wonders if he or she should be angry or just sad over this sort of trash.

Berglund, E. R. & A. C. Mace, Jr. Diurnal albedo variations of black spruce and sphagnum-sedge bogs. Can. Jour. For. Res. 6(3):247-252. 1976.
Light measurements on two types of bogs were taken in northern Minnesota, USA. The black spruce stand's diurnal albedo was parabolic with a maximum at 1200 h (7-8%) and decreased. Greatest variation was in the summer months. The sphagnum-sedge type bog showed a M-shaped diurnal variation with minimum at 1200 h between two maxima. Maxima occurred as a result of specular reflection and changes in solar radiation quality.

Carlquist, S. Wood anatomy of Roridulaceae: Ecological and Phylogenetic implications. Am. J. Bot. 63(7):1003-8. 1976.
The wood anatomy of *Roridula* (a non-carnivorous plant) is compared to *Byblis* and found to have very similar secondary xylem features. The author feels it should be excluded from *Droseraceae*.

Chandler, G. E. & J. W. Anderson. Studies on the nutrition and growth of *Drosera* species with reference to the carnivorous habit. New Phytol. 76(1):129-41. 1976.
Drosera whittakeri was grown on sand with inorganic salt solutions lacking either nitrogen, sulfur, phosphorus or microelements. Application of fruit flies to the leaves were applied to plants growing on media deficient in P or microelements, there was no effect on growth but the phosphorus content of the plant increased significantly. Insects could not serve as a carbon source for photosynthesis. The best growth of *D. binata* and *D. whittakeri* occurred on plants fed fruit flies while growing in a nitrogen deficient medium. Nitrates in the nutrient medium inhibited growth. Optimum growth of these *Droseras* was not achieved by growing plants on complete nutrient solution in the absence of insects. Phosphorus was very important in the tuberous *Drosera* both for early emergence and for development of new rhizomes on which new tubers formed.

Chandler, G. E. & J. W. Anderson. Studies on the origin of some hydrolytic enzymes associated with leaves and tentacles of *Drosera* species and their role in heterotrophic nutrition. New Phytol. *77*(1):51-62. 1976.
Extracts of the leaves of *Drosera whittakeri*, *binata* and *auriculata* had protease activity over a very wide range of pH optima. These were taken from field plants. However, only distinct pH optimum of proteinase activity (pH 2.6) was determined in the sterile axenic cultures of *D. binata*. Many bacteria associated with field-grown plants were found to secrete many of the proteinases with acid pH optima. The authors concluded that microbial enzymes play a significant role in the digestion process of captured insects.

Fish, D. Insect-plant relationships of the insectivorous pitcher plant *Sarracenia minor*. Fla. Entomol. *59*(2):199-203. 1976.
The noctuid moth, *Exyra semicrocea*, damaged 66% of the 80 plants studied rendering them non-functional. Young larva were present in 22.5% of the remaining functional leaves. In addition, the sarcophagid *Blaesoxipha jonesii* were present in 64% of the leaves and consumed as much as 50% of the plant's prey. However, the author noted that 90% of the leaves captured ants and *S. minor* may be specialized in doing so.

Hayakawa, M. Sources of seed. Pacific Horticulture *37*, No. 4:54-7. 1976.
The author provides a listing of Societies and collectors where rare and wild seed of a variety of plants may be found. Included in the list is our own CPN seed exchange.

Heslop-Harrison, Y. 1976. Carnivorous plants a century after Darwin. Endeavor 35:114-22.
An excellent historical review of CP glandular anatomy and physiology with particular emphasis on enzyme secretion studies. Twenty figures.

Kondo, K. A cytotaxonomic study in some species of *Drosera*. Rhodora *78*(815): 532-41. 1976.
The chromosome numbers of six species of *Drosera* are reported for the first time. The 2N number of the *Drosera* species are: *cuneifolia*=32, *gigantea*=28, *hamiltonii*=28, *petiolaris*-12, *adelae*=28, Kanto *spathulata*=40, and Yakushima *spathulata*=40. *Drosera petiolaris* showed the largest chromosomes ever seen in the genus *Drosera* and has the lowest number.

Sawyer, J. O. Preservation of Rare and Endangered Plants. Pacific Horticulture *38*(1):56-7. 1977.
Some 700 species of California's plant species representing about 10% of the total state's flora are listed as rare or endangered. The author urges citizens to be aware of this problem. *Darlingtonia californica* is mentioned as a plant that is endangered because of commercial exploitation.

Schnell, D. E. 1976. Carnivorous plants of the United States and Canada. John F. Blair Publisher (1406 Plaza Dr. SW, Winston-Salem, NC 27103), 125 p. + ix, 117 color photos + drawings and maps. $19.95 (+ .35 postage).
Complete coverage of CP in the area, including 117 photos in full color. Discussion covers basic biology, identifying descriptions, ranges, specific facts about each species, and a chapter on cultivation. Glossary and definitions of scientific names in appendix.

Schnell, D. E. 1976. You catch more bugs with a sundew. Plants Alive 4:14-5.
A short popular article very generally describing *Droseras* and their culture. Four black and white photos.

Siddiqui, S. A. Studies in the *Lentibulariaceae*: 7. The development of endosperm and embryo in *Utricularea coerulea* var. *filicaulis* Clarke. Bot. Not. 128(4):432-7. 1975.
The first division of the primary endosperm cell is transverse. Next, the division in both primary cells is longitudinal and walls laid down are complete. After this, the author observed considerable variations in the plane and early cell divisions in the development of the endosperm. The mature embryo differentiates only into epidermis and its meristematic apical region.

Swenson, Allan A. 1977. Cultivating Carnivorous Plants. Doubleday & Co., Inc. Publisher (Garden City, New York), 152 p. + B&W photos.
This book describes the culture, and care of various genera of carnivorous plants. Furthermore, it describes experiments and informs the reader on organizations, periodicals and locations of plant displays. Finally, it reproduces the CPN World Listing of CP at the end of the book. One of the faults that the author gets into is the confusion of *Sarracenia leucophylla* (the preferred name) and *S. drummondi* which he seems to use interchangeably. To less extent, he uses *S. sledgei* for the preferred name *S. alata*. Despite this, the book will be another useful information source for the amateur CP grower.

Wallace, R. L. Distribution of sessile rotifers in an acid bog pond with particular emphasis on *Ptygura beauchampi* (Edmondson). Ph.D. dissertation, Dartmouth College, June, 1975.

One plant, *Utricularia vulgaris*, because of its unique relationship with the sessile rotifer *Ptygura beauchampi* was studied in more detail. Prey captured by this carnivorous macrophyte were studied by dissecting and examining the prey-capturing organs for recognizable prey remains. Three distinct prey capturing organs distinguished by differences in size, morphology, and leaf position, were found on each leaf whorl. For convenience they were designated large, small, and stem bladders. An analysis showed that the prey captured differed between trap types with regards to size and type. Widths of bladder trap doors were shown to be correlated to prey lengths in large ($p < 0.05$) and small ($p < 0.001$) but not in stem bladders. *Cladocera* were the most abundant prey type (>50%) in all three bladder types. Analyses of prey size showed that all prey caught by each bladder type were different in size ($p < 0.001$; large > stem > small). *Cladocera* caught by small and stem bladders were equal in size ($p = 0.55$), but those caught by large bladders were shown to be large ($p < 0.001$). Glandular trichomes present on each of the three bladder types were described. They undergo a developmental sequence which culminates in a bacterially colonized corona of mucilage surrounding the bulbous head cell.

A detailed analysis of the adult substrate distribution and larval site selection activities of *P. beauchampi* were undertaken. This sessile rotifer was found to be limited to the vestibular or trap door region of the large bladder of *U. vulgaris*, although four other congeneric species were present. The presence or absence of captured prey was unimportant to adult distribution. Larval selection experiments confirmed these field observations. Observations were made on larvae of known ages. Five age classes were described in which morphology, swimming behavior and speed, reaction to substrates, and probability of settling all differ. Larvae undergo characteristic behavioral movements when encountering *U. vulgaris* large bladder vestibules. They will attach to the substrate then bend over from the point of attachment, touch the substrate, straighten up and repeat the process again and again, advancing to the left or right and eventually circumscribing a circle. Glandular trichomes which have attained a certain stage of development stimulate larvae to settle. A hypothetical mechanism for larval substrate selection is presented, and the supportive evidence is discussed. Larval site selection activity including the behavioral movements, permanent attachment and metamorphosis, is begun when larvae tactually sense a stimulus unique to *U. vulgaris* large bladders. This stimulus is relatively stable and of plant and not bacterial origin. It is associated with glandular trichomes which have attained a certain developmental state. Characteristic of this stage is the formation of a bacterial-mucilage complex. However, the mucilage is not the source of the larval settling stimulus. The stimulus may be chemical in nature arising from the head cell of the glandular trichome.

Woelkerling, W. J. Wisconsin desmids: I Aufwuchs and plankton communities of selected acid bogs, alkaline bogs, and closed bogs. Hydrobiologica 48(3):209-32. 1976.

The greatest diversity of the plankton community at a given site occurred in association with the macrophyte host *Utricularia*. The author discusses the relationships between the occurrence of desmid genera and parameters of the chemical environment among the 28 acid bogs, 5 alkaline bogs and 12 closed bogs found in the state.

Zahl, P. A. Southwest Australia's wild gardens: Bizarre and beautiful. Nat. Geographic *150*, No. 6:858-68. 1976.

This article describes some plant species which have developed some strange and beautiful adaptations to the harsh environment. Included in the list of described species are *Cephalotus follicularis* (a splendid photo!), *Drosera pulchella* and *Drosera platypoda*.

SOURCES

We are offering an update of the annual list of carnivorous plant commercial sources. It is our experience that spring is the best season to order these plants. *We do not endorse any of these sources.* Those sources who have volunteered a letter stating that all stock is propagated rather than scavenged from the field, are listed first and marked (*).

Name and Address	*Catalogue*	*Genera*
SUN DEW ENVIRONMENTS * P.O. Box 111 Denver, NY 12421	50¢	Dionaea, Drosera, Sarracenia, Pinquicula, Darlingtonia, Utricularia
WORLD INSECTIVOROUS PLANTS * Rt. 1, Box 338S Arroye Grande, CA 93420	Self-addressed stamped envelope or 25¢	Dionaea, Drosera, Utricularia, Byblis liniflora