Another day, we left the base camp for Marei-Parei. After two hours' walk on the second day, we found Nepenthes tentaculata and knew we were already in the Nepenthes zone. Later, Nepenthes rajah was found. In a sunny wet boggy area N. edwardtiana was seen. Three hours after we left the first camp we arrived at Marei-Parei, alt. 1828 m. There was the biggest population of Nepenthes rajah (800 m^2) I have ever seen. Thousands of seedlings of N. rajah were there. There was also a good population of Drosera spathulata. It was the shortest day in my whole life when I found Nepenthes rajah. Readers might understand my feeling for a time when I found something new that I wanted if you have had similar experiences to this.

SPECIAL NOTICES

JAPANESE CARNIVOROUS PLANT BOOKS

The following books were written in Japanese on the subject of carnivorous plants. These books can be ordered from our offices by sending in your check or money order made out to J. A. Mazrimas before March 1, 1973. I will order the books at that time and there may be a delay of two months or more before you receive your books. The books have pictures in black and white and color as well as line sketches, many captions being in standard Latin nomenclature as well as Japanese.

Author	Title	Pages	Price*
1. Shimizu	Insectivorous Plants (Photo. Illust.)	154	$9.00
2. Suzuki	Insectivorous Plants (Cult. and Collect.)	168	$1.80
3. Kasahara	The Wonder of Insect. Plts.	242	$1.25
4. --------	Aldrovanda vesiculosa at Hanyu-city	32	$2.10
5. --------	"New Flower" Magazine (Special edition)	86	$1.20
6. Komiya	Systematic Studies on Lentibulariaceae (English)	124	$7.60

*Price includes overseas and domestic postage and represents cost only.

NORMAN LEFKOVITZ (617 Treeside Drive, Akron, Ohio 44313) would like to directly communicate with anyone who is or has grown carnivorous plants under artificial lights, or who is interested in doing so. Norman is gathering quite an experience in this area.

RECENT LITERATURE

Amagase, S.: Digestive enzymes in insectivorous plants. III. Acid proteases in the genus Nepenthes and Drosera peltata. Jour. Biochem. 72. pp. 73-81 1972

Nepenthes crude secretions had four proteases, the purified extracts one, the latter similar in electrophoretic mobility to the purified extract of D. peltata. Characterizations with pH

and temperature variations and use of inhibitors were made. The site of peptide bond splitting was also determined and was the same for the purified extracts from both plants.

Amagase, S., Mori, M., and Nakayama, S.: Digestive enzymes in insectivorous plants. IV. Enzymatic digestion of insects by Nepenthes secretion and chitinolytic activities. Journ. Biochem. 72. pp. 765-767 1972

The authors purified and studied the properties of acid proteases from the secretion of Nepenthes and an extract of Drosera peltata. They also demonstrated a chitinase enzyme which solubilizes the external skeleton of ants and other insects. At the present time, it was not established if the latter enzyme is formed by the plant or by some symbiotic microorganism living in the Nepenthes fluid.

Darling, Thomas, Jr. and Shetler, S. G.: Sarracenia x catesbaei Elliott (pro. sp.) in the Pocono Mountains of Pennsylvania. Castanea 37 (2). pp. 133-137 1972

Four separate instances of apparent spontaneous hybridization between the native Sarracenia purpurea L. and introduced S. flava L. at Bear Lake in Lackawanna County, Pennsylvania, are described. This hybrid has been known for a long time under the name S. catesbaei Elliott.

Kondo, K.: A paper chromatographic comparison of Utricularia cornuta and U. juncea. Phyton 30 (1/2) pp. 43-45 1972

Although many of the constituents are common to both Utricularia cornuta or U. juncea, certain spots are found only in U. cornuta or U. juncea. Paper chromatographic observations lend support to the conclusion that U. cornuta and U. juncea are quite closely related to each other but still are separate species.

Kondo, K.: Chromosome numbers of some angiosperms in the United States. II. Phyton 30 (1/2) pp. 47-51 1972

Among new chromosome number counts of ten species, four species of Utricularia were reported for the first time: Utricularia biflora (n=14), Utricularia fibrosa (2n=28), Utricularia gibba subsp. gibba (n=14), Utricularia radiata (n=14). Since U. radiata is taxonomically closely related to U. inflata it is sometimes called U. inflata var. minor. Studies by Reinert and Godfrey (1962) indicated that the taxa were biosystematically distinct. Indeed they are, for the chromosome numbers of the species are different: n=9 or 2n=18 and 36 for U. inflata (Lewis, et al., 1962), n=14 for U. radiata.

Ragetli, H. W. J., Weintraub, M., Lo, E.: Characteristics of Drosera tentacles. I. Anatomical and cytological detail. Can. J. Bot. 50 (1). pp. 159-168 1972

Distinct features on the surface and inner structure of the tentacle were described in detail which could explain the various functions carried out by this complicated organ. The transport of metabolites,

the extreme permeability of the head and the bending of the tentacle were attributed to various types of cells and intercellular spaces.

Schmid-Hollinger, R.: Nepenthes studies: II The hair of the Nepenthaceae and its phylogenetic significance. Bot. Jahrb. 91, pp. 61-90 1971

IN GERMAN

There are four types of hair forms varying from simple types to branched forms. Species of Nepenthes with simple hairs have a restricted distribution while species with simple and branched hairs often are widely distributed. Many species with simple hairs are found in the regions of Sumatra and the Malay Peninsula while Borneo, on the contrary, shows many species with derived hairs.

Schnepf, E.: Membrane flow and membrane transformation. Ber. Deut. Bot. Ges. 82 , pp. 407-413 1969

IN GERMAN

As a model for studying membrane function, the author observed the glandular mucous cells of Drosophyllum and concentrated on the transport mechanisms between compartments in this plant.

Slee, John: The Meateaters. Garden News (England) page 7 Sept. 1, 1972

Here is an article by Mr. Slee which expressed some uncommon information about carnivorous plants. He discusses the native Droseras, Dionaea, Pinguicula and Nepenthes. In regard to the last named species, he mentions that a tropical house is necessary for all the species except N. rajah which will do well in a cool house with 45 to 50 degrees. I would like to express my thanks to George Johnson for sending in this article.

Smith, Alan P.: Survival and seed production of transplants of Dionaea muscipula in the New Jersey Pine Barrens. Bull. Tor. Club. 99 pp. 145-6 1972

In 1948 Haas transplanted Dionaea to a bog in the New Jersey coastal plain. In 1958 the original plants had been removed by vandals, but seedlings remained, and in 1970 three large plants were found, all adult and one in seed. Four seeds were removed and were proven viable under lab conditions. The survival of viability of seedlings of Dionaea 528 km. north of its northernmost limits would indicate that macroclimactic factors have less importance in limiting the plant's range than might have been suspected.

Swales, D. E.: Sarracenia purpurea L. as a host and carnivore at Lac Carre, Quebec. Nat. Can. 99 (1) pp. 41-47 1972

Rotifers, nematodes and copepods are now added to the previous list. See CPN 1, 15, 1972. In the collection found in late summer were nine more insect families added to the previous list of victims.

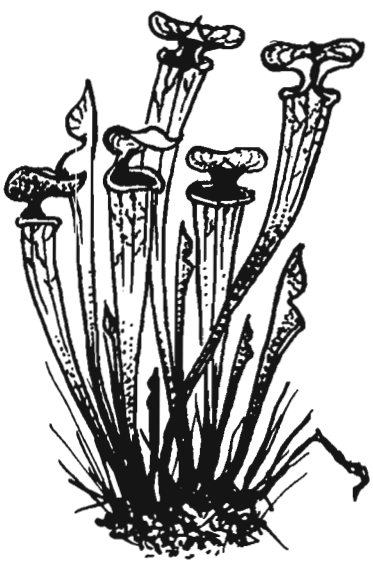
Williams, S. E., Pickard, G. B.: Properties of action potentials in Drosera tentacles. PLANTA (Berl.) 103 (3) pp. 222-240 1972

Action potentials of Drosera resemble those of vertebrate peripheral nerves in that they appear to be comprised of uniform spikes, variable shoulders or negative after-potentials, and variable positive after-potentials. They propagate from the neck of the stalk to its base at about 5 mm/second at room temperature.

Williams, S. E.: Receptor potentials and action potentials in Drosera tentacles. Planta (Berl.) 103 (3) pp. 193 - 221 1972

In D. intermedia, receptor potentials can be detected with electrodes applied to the mucilage surrounding the head of the tentacle, if the head is stimulated with an insect or mechanically or salt solutions. Action potentials can be detected with electrodes applied to any region of the stalk, and occur at a frequency dependent on the magnitude of the receptor potential. Inflection of the lower stalk follows the occurrence of action potentials.

DO NOT FORGET YOUR RENEWAL IF DUE



Sarracenia flava

Drosera intermedia