

as a medium:	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	24 mg/l
	K <sub>2</sub> SO <sub>4</sub>	64
	MgSO <sub>4</sub>	44
	KNO <sub>3</sub>	55
	K <sub>2</sub> HPO <sub>4</sub>	25
	Ca(NO <sub>3</sub> ) <sub>2</sub>	29
	Citric acid	3

Algal growth may inhibit Aldrovanda growth in which case add desiccated alum and change the water frequently.

NEPENTHES AND I - MT. KINABALU (BORNEO, MALAYSIA) TRIP  
by Yoshiwo Toyoda

Mt. Kinabalu, located in Saba State, North Borneo, Malaysia, is the highest mountain in southeastern Asia, 4101 m. alt. (13,455 ft.). Since this area is called Mt. Kinabalu National Park (433 km<sup>2</sup> wide), the Malaysian government supports this park and protects its wildlife, animals and plants. This mountain is very famous as a Nepenthes source, especially four endemic species.

A chance to go there came to me in 1971: the governmental office of the park was looking for a person who could make a field trip for Nepenthes collecting with some workers there. I applied and they were very cooperative with me. I joined their field trip from April to May, 1971. According to previous literature, most of the Nepenthes in Mt. Kinabalu grow in the zone between open mixed forests (alt. 900-1800 m.) and moss forests (alt. 1800-3150 m.), called the Nepenthes zone. We planned a visit to this zone first and then to Marei-Parei where the king of Nepenthes, N. rajah grows.

First of all, we reached the headquarters of Mt. Kinabalu National Park (alt. 1615 m.). Around this foggy area, we found Nepenthes tentaculata, the first species of the trip. Next day, we left the 9100 base camp for further searching. Nepenthes stenophylla was found in a grassy area along the trail by the electric power station, alt. 2145 m. Soon after that, hundreds of beautiful Nepenthes tentaculata were seen along the trail. Then we entered into the moss forest with thousands of mosses, orchids, and many other tropical plants and N. tentaculata in wonderful natural gardens. If you could see it, you would never forget it. According to our observations, the humidity was 50% and the temperature was 23.5° C.

After that, in the next zone, we found Nepenthes lowii which was climbing up trees. Pitchers of this species were very peculiarly shaped. In this area the humidity was 40%, temperature 25° C. Soon after we saw the building of the radio station (Radio Sabah, alt. 2590 m.) and found another species, Nepenthes villosa. Then at 3:00 p.m. we reached our first camp (alt. 2654 m.). The next day, at altitude around 3047 m., there was the biggest population of Nepenthes villosa we have ever seen.

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<sup>2</sup>) 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.

<u>Author</u>	<u>Title</u>	<u>Pages</u>	<u>Price*</u>
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. -----	<u>Aldrovanda vesiculosa</u> 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