

Differential chemical analysis--The following comparative chart is the result of our analysis:

	<u>Canadian</u>	<u>German</u>	<u>Michigan</u>
pH	4.2	4.4	5.2
Nitrate nitrog.	0	0	20
Phosphorus	15	10	25
Potassium	12	18	12
Calcium	20	20	5500*
Ammonia nitrog.	2	2	2
Magnesium	20	20	20
Manganese	0	0	0
Aluminum	0	0	0
Nitrite nitrog.	0	0	0
Ferric iron	0	0	0
Sulfate	0	0	0
Chloride	6	10	4

Except for pH, numerical values are in PPM.

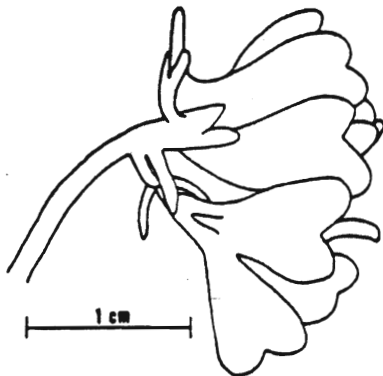
We hesitate to interpret these results too closely since many of the differences are not chemically significant. Our pH method is quite sensitive and obviously Canadian and German peats are more acid than Michigan. Michigan peat is indeed "richer" in the usual horticultural sense in that higher levels of nitrogen (nitrate) and phosphorus are present. Very startling was the large quantity of calcium in Michigan peat; we checked this result with several repeats (no pun intended). We feel that the increased level of potassium in German peat is of borderline significance, but may be of importance in light of current concepts of the function of potassium in certain physiologic processes.

A word of caution: First, sampling is limited since only material from a single batch or bag was used. Secondly, we can only speak for the elements analyzed; there may be many others which in trace amounts could be important, some such as copper, boron and zinc, and others as yet undefined regarding their rolls in plant physiology.

NOTES ON ABNORMAL FLORAL DEVELOPMENT
IN PINGUICULA
by Landon T. Ross

Based on some recent casual observations, abnormal floral development would seem to be rather common in Pinguicula. During a field investigation in Liberty Co., Florida, in February, 1976, flowers were examined in a mixed colony of Pinguicula planifolia and P. ionantha. About twenty specimens of each species were observed and two unusual flowers were noted.

One small individual of P. planifolia (rosette diameter 5.8 cm.), with a single scape, had a small flower (expanded corolla 21 mm. in diameter) with seven corolla lobes and with the calyx lips both three cleft. There are typically five corolla lobes in Pinguicula and the lower calyx lobe is usually two cleft. Other than the multiple perianth parts, the flower was entirely normal.



A moderate sized specimen of P. ionantha (rosette diameter 9.3 cm.) was considerably more unusual. It had three scapes, two of which had normal flowers. The third scape was terminated by two flowers with more or less fused calyces (see illustration). The uppermost flower was not unusual anatomically although it was rotated about 80° counter-clockwise from the usual position, with the spur thus being directed to the right when the corolla was viewed from the front. The lower, second flower was considerably modified. Three relatively well developed spurs were present as well as two short processes on the corolla tube which appeared to be incompletely developed spurs. Two palates were also observed on alternate corolla lobes; one slightly smaller than usual, and the other only about one-quarter of the normal size. Finally, the second flower was sterile, both male and female organs being absent.