A trial was made on leaves of *Iris tingitana* grown in complete darkness, as in many plants of this species the base or sheath is often much poorer in chlorophyll than the rest and as chlorophyll as an indirect agent plays a part in ascorbic acid synthesis. In the completely bleached leaves, a gradient was also found increasing from base to apex.

The distribution of ascorbic acid between the different leaves of a plant is regulated not only by the size, but also by the weight of each leaf; the insertion point, which gives the relative age of the organ, also seems to interfere. In quite a great number of plants there is an even variation of concentration from one leaf to another. That in some cases at least this distribution is specific, is shown by its constancy.

In some plants, the topmost and youngest leaf, whose growth is supposed to be the quickest, has the highest concentration of ascorbic acid (*Crithmum maritimum* etc.), but others have a similar distribution only at certain times, such as flowering. This is brought about either by accumulation in the apex leaves or by losses in leaves at the base of the axis or, perhaps more frequently, by both processes together.

Sometimes the maximum concentration appears in other leaves; in *Himantoglossum hircinum*, the gradient seems to be reversed, the top leaf always being the one poorest in ascorbic acid.

The differences in ascorbic acid concentration between the different leaves are not due to differences in photosynthetic activity; even when grown in darkness various Monocotyledons show the same kind of gradient.

In other foliar organs and the scales of the bulbs of tulips and hyacinths, there is an ascorbic acid gradient unconnected with that of the leaves proper. In the resting bulbs of the tulip, the concentration increases from the outer scale to the innermost one; under the same conditions the scales of the bulbs of hyacinths differ slightly in ascorbic acid concentration, which increases from outside to inside. When the plants are gown fully, it appears as though ascorbic acid was formed in all the scales and was preferentially utilized from the inside to the outside of the bulb, the concentration increasing in the external scale (the lower one) and decreasing, sometimes considerably, in the inner scales (the upper ones).

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Carrion-Eating by Ophiuroids

OPHIUROIDS are known[1,2] to eat a wide range of food, including phytoplankton, zooplankton, polychaetes and detritus; carrion-eating can now be added to the list, for it has recently been observed in this laboratory on the part of *Ophiocomina nigra* (Abild.), *Ophiothrix fragilis* (Abild.), *Ophiura texturata* Lam. and *O. abilda* Forbes. In aquaria these brittle-stars were seen to eat on one occasion a dead lesser weever (*Trachinus vipera* C. and V.), and on another a small dead cephalopod (*Sepiola atlantica* d'Orb.). Each ophiuroid's stomach was scarcely everted at all while feeding, but the long tube-feet round the mouth made strong tugging movements, breaking off small pieces from the prey which were later found in the ophiuroid's stomach.

This carrion-eating habit was tested in the field by putting out pairs of crab-pots overnight, one of each pair being unbaited and the other baited with pieces of plaice, cod, coalfish and dogfish. Old pots were used, in order to avoid any repelling effect of new pots, and they were laid on three nights on a coarse gravelly ground near Port Erin at a depth of 30–35 m., where ophiuroids are known to be abundant. (On one occasion (May 19–21), because of weather, they had to be left out for two nights.) The numbers caught in baited and unbaited pots were as in Table 1.

Table 1.

Date (1959)	No. of Ophiuroids	
	Baited pots	Unbaited pots
May 14–15 ..	46	0
19–21 ..	99	19
26–27 ..	9	0
Total ..	154	19

During the period May 19–21 there seems to have been sufficient random movement by the ophiuroids for some of them to have entered the unbaited pot, but it is quite clear that on each occasion the presence of dead fish strongly attracted the ophiuroids, particularly *Ophiocomina nigra* and *Ophiothrix fragilis* which between them made up nine tenths of the total.

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Applications of Paper Chromatography to Systematics: Recombination of Parental Biochemical Components in a *Baptisia* Hybrid Population

SEVERAL years ago, Gibbs,[1] summarizing contributions of biochemistry to plant taxonomy, recognized the importance of the then relatively new techniques of paper chromatography and forecast their wide application to systematics. Although a number of workers have applied chromatographic techniques to taxonomic problems in both botany and zoology[2], the use of these techniques is not nearly commensurate with their potential value, perhaps because the co-operation of taxonomists and persons trained in biochemical analysis has been slow to develop. The present communication constitutes a brief description of work currently under way which is to be reported in greater detail elsewhere;[3] the chomatographic analysis of individuals from a natural hybrid swarm of *Baptisia laevicaulis* × *B. viridis* (family Leguminosae), and correlation of these data with a similar analysis of the parental species collected in pure populations. Three other species of *Baptisia* were also examined chromatographically. Since this genus contains about 30 species of wide occurrence in the eastern United States, and hybridization among these species is common, it is highly probable that the scope of the present investigation will be extended. In this study we were particularly concerned with the recombination of biochemical components peculiar to each parental species among the hybrid and back-crossed individuals.