DISCUSSION

ISOLATION OF URACIL FROM LIVER

IN the course of a fractionation procedure designed for the isolation of one of the water-soluble vitamins from liver extract, a crystalline compound was obtained which was identified as uracil. Because we have been unable to find a report of the presence of free uracil in liver and because of the rather unusual, yet simple method that yielded the pure material, it may be of use to other workers to record our observations briefly.

A commercial alcohol-soluble fraction of pork liver extract obtained as a by-product in the preparation of the pernicious anemia factor was used as a starting material.[1] This sirup was dissolved in water, concentrated under reduced pressure, adjusted to a pH between 6 and 7, and extracted continuously with ether for 75 hours. A pale yellow, crystalline deposit slowly formed in the boiling flask during this time. These crystals were filtered off and recrystallized from water. The resulting white product gave a strong test for uracil when treated with bromine water and barium hydroxide, and contained 25.3 per cent. nitrogen (calculated for uracil, 25.1 per cent.). The phenylhydrazine derivative prepared according to Levene's directions[2] melted at 250°; 5-phenylhydrazine-uracil melts at 252°. The yield amounted to 0.007 per cent. of the fresh liver.

These facts leave no doubt as to the presence of uracil in the liver extract. However, it may be possible that the pyrimidine was an artifact, and that it arose from cytosine during preparation of the extract. Since enzyme action is rapid, artifacts may conceivably arise even in the relatively short time required to make an aqueous extract of the organ.

Similar procedures applied to rice bran extract have resulted in the isolation of uracil from this material also.

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FACETTED PEBBLES IN EASTERN VENEZUELA

IN the southwest part of the state of Anzoategui, in eastern Venezuela, there are extensive areas of rolling savanna land, covered by coarse grass and a thin growth of scrubby trees; with the drainage courses marked by narrow bands of dense tree growth. The surface is composed of late Tertiary sand and clay; and over much of the area there is a sprinkling of pebbles, concentrated by erosion as a lag gravel from some of the sandy beds. Nearly all these pebbles are of quartz, well-rounded; with occasional less-rounded fragments of chert. The greater number range from about one-half inch to two inches in greatest dimension.

Scattered among these rounded pebbles there are also facetted pebbles of quartz, with rarely a facetted chert pebble. Many are well-formed dreikanters, with triangular cross section and lens-shaped sides. Occasional pebbles, oval in general shape, have only one well-developed edge. A greater number of pebbles show only partial facetting. Their frequency varies considerably in different localities, perhaps having been governed by favorable exposure to the prevailing wind. A rough analysis of groups of 200 pebbles, gathered from eight widely separated localities, is given in Table I.

TABLE I

Locality	A	B	C	D	E	F	G	H
Good specimens	0	1	2	2	2	3	5	12
Partially facetted	1	5	3	4	8	4	24	22
Some facetting	4	8	5	10	22	9	28	31
Not appreciably facetted.	195	186	190	184	168	184	143	135

The two localities showing greatest frequency of facetting are on opposite sides of the valley of the Aribi River, on upland benches; the other localities are at places on the savanna lands not especially exposed to the wind.

Since they were facetted most of the pebbles have acquired a rust-colored film from the sandy soil. Some on stream terraces are clear white, but their edges are somewhat rounded, as if they had undergone partial re-rounding since being facetted.

In many places the surficial material has been cemented by iron oxide into hard sandstone and conglomerate; which, by differential erosion, now cap low mounds, knolls and even hills, rising above the mean level of the savanna lands. The pebbles in the conglomerate are so like those of the lag gravel that it seems probable they all have a common origin.

In a few places where blocks of the conglomerate are exposed to winds from the east or southeast, the surface pebbles have been polished, and even worn into curved surfaces; but an unsuccessful search was made for facetted pebbles embedded in the conglomerate. It would seem, therefore, that the conglomerate was formed prior to the period of facetting, and also in some places underwent sand-blasting.

[1] We wish to thank Dr. David Klein of the Wilson Laboratories for generous gifts of this material.

[2] P. A. Levene, *Jour. Biol. Chem.*, 63: 658, 1925.