

Table 1. EFFECT OF INJECTION OF SODIUM ANTHRANILATE ON THE BIOSYNTHESIS OF *o*-AMINOPHENYL GLUCURONIDE BY MICROSOMES OF MATERNAL AND FETAL RAT LIVERS *in vitro*

Type of treatment and No. of animals	<i>o</i> -Aminophenyl glucuronide formed	
	Mother	Fetus
Saline (control), 6	0.044 ± 0.013	0.008 ± 0.005
Anthranilate, 6	0.041 ± 0.019	0.011 ± 0.003

Washed microsomes obtained from 1 gm. of liver were incubated for 30 min. at 37° C. with 0.2  $\mu$ mole *o*-aminophenol, 1  $\mu$ mole UDPGA and 25  $\mu$ moles magnesium chloride in 0.1 *M* tris (hydroxymethyl) amino-methane buffer, pH 8.0. Results are expressed as  $\mu$ moles formed per gram of liver  $\pm$  standard deviation

similar group of pregnant rats was given a comparable amount of saline. 12 hr. after the last injection, the animals were decapitated, and microsomes were prepared from the foetal and maternal livers. In mothers treated with anthranilate, foetal liver exhibited anthranilic acid concentrations<sup>7</sup> of 18.3  $\mu$ gm. (S.D. 5.9  $\mu$ gm.) per gm. tissue, while none was detectable in maternal livers or in foetal livers of saline-treated mothers. Washed microsomes obtained from 1 gm. of liver were incubated with *o*-aminophenol and UDPGA and the amount of *o*-aminophenyl glucuronide formed was estimated<sup>2</sup>. As seen in Table 1, no difference in glucuronide formation was observed between microsomal preparations of foetal livers that were obtained from mothers treated with anthranilate or with saline. Moreover, the magnitude of glucuronide formation by microsomes of maternal livers was similar in both groups of rats. Per gm. of liver, foetal microsomes exhibited about four times less enzymatic activity than maternal preparations; but if the values were expressed per mgm. of microsomal protein nitrogen, this difference was much smaller. This is believed to indicate that on a weight basis foetal liver may contain less precipitable microsomal particles than adult liver.

The results suggest that in foetal rat liver increased activity of the glucuronide-forming enzyme system cannot be induced by the presence of substrate, even though the aglycone is present in considerable concentration over the last five days of gestation. Other factors must be responsible for the 'immaturity' of the foetal liver. To what extent these observations may be applicable to man remains to be elucidated.

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## Flavone Glucosiduronic Acids in *Scutellaria* sp.: a Correction

In the course of studies on the isolation of flavone glucosiduronic acids from various skull-caps, specimens of a localized colony at Mells, Somerset, which had been identified as *Scutellaria columnae* Tenore<sup>1</sup>, were reported<sup>2</sup> to contain scutellarin (5,6,7,4'-tetrahydroxyflavone  $\beta$ -glucosiduronic acid) and not baicalin (5,6,7-trihydroxyflavone  $\beta$ -glucosiduronic acid) as found previously<sup>3</sup> in this species grown in the area of Paris. This anomaly is now removed by the recent re-identification<sup>4</sup> of the Mells skull-cap as *Scutellaria altissima* L., a native of south-east Europe. Scutellarin was originally isolated from this plant<sup>5</sup>.

Thanks are due to Dr. A. J. Willis for directing my attention to this reclassification.

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## Relationship between Auxins and Nucleic Acid Synthesis in Coleoptile Tissues

THAT auxins may affect nucleic acid metabolism in plants has been suggested by a number of workers. Silberger and Skoog<sup>1</sup> had observed an increase in both the deoxyribonucleic acid and ribonucleic acid content of tobacco pith cells incubated with 0.01 to 10 mgm./l. of indole acetic acid. Growth continued in a manner somewhat similar to changes in the ribonucleic acid content for a few days even though the synthesis of nucleic acids had apparently stopped after four days of application of indole acetic acid. Holmes *et al.*<sup>2</sup> have shown that in *Vicia* root, as the distance from the root tip increased the content of deoxyribonucleic acid per cell also increased. Attempts have been made to correlate root growth with nucleic acid metabolism in other plants as well<sup>3-5</sup>. In maize roots it has been found that application of indole acetic acid resulted in a slowing down of growth accompanied by a decrease of both deoxyribonucleic acid and ribonucleic acid<sup>3</sup>. Some workers are inclined to believe that growth and synthesis of deoxyribonucleic acid in plants continues only in the presence of auxins<sup>6-8</sup>. The present communication summarizes the results obtained in an investigation on the incorporation of compounds labelled with phosphorus-32 and carbon-14 into the coleoptile tissues as affected by indole acetic acid.

Seeds of *Avena sativa* var. N.P.1 and *Oryza sativa* var. Rupsail were used. The seeds were germinated in the dark with occasional red light for 3 days. The coleoptiles were then decapitated at 2-3 mm. and floated on water for 2 hr. to free them from any endogenous auxin. After a further decapitation by another 2-3 mm., 5-mm. sections were cut off and floated on the experimental solution containing Na<sub>2</sub>H<sup>32</sup>PO<sub>4</sub> (50  $\mu$ c./ml.) of specific activity greater than 1 mc./ $\mu$ gm. phosphorus in *M*/150 phosphate buffer of pH 6.0 for 2 hr. with or without indole acetic acid. For rice, 5-day old coleoptiles were used. (Na<sub>2</sub>H<sup>32</sup>PO<sub>4</sub> was obtained from N.V. Philips Roxane