

of ionization in this direction, the separations used by the earlier workers were not sufficient. The present observations have given a fair indication of the existence of a small north-south electron drift at Thumba both in E- and F-regions.

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## METABOLISM OF PHENYLALANINE BY *MYXOCOCCUS* SPECIES

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#### ABSTRACT

Metabolism of phenylalanine by *Myxococcus* species was studied. Tyrosine, *p*-coumaric acid, *p*-hydroxyphenyl pyruvic acid, *p*-hydroxyphenylacetic acid, homoprotocatechuic acid, *p*-hydroxymandelic acid, *l*-hydroxybenzaldehyde and *p*-hydroxybenzoic acid were found to be the intermediates in the degradation of phenylalanine by *M. fulvus*, *M. virescens*, *M. stipitatus* and *M. ovalisporus*. The identity of the intermediates was based on their chromatographic behaviour and U.V. absorption spectra. Breakdown of the intermediates and of both phenylalanine-U-<sup>14</sup>C and tyrosine-U-<sup>14</sup>C by *M. fulvus* N35 was also followed. Based on these observations, likely pathways leading to phenylalanine breakdown by *M. fulvus* are suggested.

THE available information on the nutrition of a fruiting myxobacteria shows that whereas carbohydrates do not serve as efficient sources of carbon and energy the amino acids do for most of the species. Although the exact requirement for the individual amino acids in the metabolism of myxobacteria has not so far been investigated, their role in morphogenesis and fructification has received some attention. So far, at least three amino acids, viz., phenylalanine, tryptophan and methionine, in specific concentration in the media, have been shown to suppress fructification in some myxobacteria<sup>1-4</sup>.

In this report are discussed the observations made on the breakdown of phenylalanine by some *Myxococcus* species.

#### MATERIALS AND METHODS

*Chemicals.*—*p*-Hydroxyphenylpyruvic acid, *p*-hydroxyphenylacetic acid, *p*-hydroxybenzoic acid, *p*-hydroxyphenyllactic acid were obtained from Sigma Chemical Co., Missouri; *p*-coumaric acid, protocatechuic acid, homoprotocatechuic acid, homogenetic acid, *p*-hydroxybenzaldehyde were obtained from Koch-Light Laboratories, Colubrook, England. L-(U-<sup>14</sup>C) tyrosine and L-(U-<sup>14</sup>C) phenylalanine