done by a dilution technique using a medium of sterile rice grains in sterile distilled water.

The medium was prepared by placing 40 to 50 sterile rice grains in each sterile petri dish containing 25 ml of sterile distilled water. After hydration the rice grains became submerged beneath a thin layer of water, which discouraged the growth of molds.

Twenty samples of soil from various sources were tested by this method. The results of a few of these are shown in table 1. Samples of water from various rivers, creeks, and springs were tested for the presence of Chromobacterium sp., but none was found in any sample.

Figure 1 is a photograph of a plate culture of a strain of Chromobacterium sp. growing on rice grains, suspended in distilled water.

Eighteen strains have been isolated by streaking and restreaking on plain nutrient agar until purity of each culture was assured.

Some of the isolates were identified as Chromobacterium violaceum while others resembled Chromobacterium amethystinum. Identifications were made using the key to the genus in Bergey’s Manual of Determinative Bacteriology (Breed et al., 1948). The author hesitates to assign species names to the isolates until a more thorough study of them can be made. It is quite apparent that the present key to the genus is rather inadequate.

It would appear from these results that the natural habitat of some strains of Chromobacterium sp. is soil rather than water. The occurrence of Chromobacterium sp. in soil appears to be wide spread rather than local. The factors which control their numbers in soil have not been determined.

GLYCINE FERMENTATION BY NONGAS FORMING ANAEROBIC MICROCOCCI

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Anaerobic members of the genus Micrococcus which produce no visible gas during growth in peptone-yeast extract medium consist of two types: those which utilize glucose and those which do not (Foubert and Douglas: J. Bact., 56, 25, 1948). This note deals with the fermentative metabolism of the latter group.

Two strains of Micrococcus anaerobius and four strains of Micrococcus variabilis were investigated. Cell suspensions from 15 to 20-hour cultures grown in medium containing 2 per cent proteose peptone no. 3, 1 per cent yeast extract, and 0.1 per cent sodium thioglycolate were tested manometrically in a nitrogen atmosphere for their ability to decompose 18 amino acids. All strains rapidly decomposed glycine as indicated by CO₂ and NH₃ formation, but failed to decompose any of the other amino acids tested.
Although certain clostridia are known that decompose glycine anaerobically in oxidation-reduction reactions involving a second amino acid (Stickland: Biochem. J., 29, 889, 1935), the direct fermentation of glycine was first demonstrated by Cardon and Barker (Arch. Biochem., 12, 165, 1947) with Diplococcus glycinophilus. The following equation for glycine fermentation, when conducted in hydrogen atmosphere or in a completely filled vessel, was established by these workers:

$$4 \text{CH}_2\text{NH}_2\text{COOH} + 2 \text{H}_2\text{O} \rightarrow 4 \text{NH}_3 + 3 \text{CH}_3\text{COOH} + 2 \text{CO}_2$$

In a nitrogen atmosphere Diplococcus glycinophilus produces considerable quantities of hydrogen in addition to the other products.

The manometric experiments with Micrococcus anaerobius and Micrococcus variabilis were conducted in an atmosphere of nitrogen, yet failed to give any evidence of hydrogen production. Quantitative analyses of the end products under these conditions indicated that glycine was decomposed in accordance with the previous equation. Thus, the fermentation of glycine by these organisms is quite similar to that carried out by Diplococcus glycinophilus with the exception that hydrogen is not formed.

Due to the complexity of the nutritional requirements of our organisms, attempts to devise a culture medium in which the effect of added glycine on growth could be observed were not successful. To demonstrate glycine utilization during growth, analyses were made of peptone-yeast extract cultures grown in large Eldredge tubes under nitrogen atmosphere. Glycine was determined microbiologically by the method of Henderson and Snell (J. Biol. Chem., 172, 15, 1948). It was found that about 20 per cent more fermentation products were produced than could be accounted for on the basis of the glycine disappearing, which could possibly have been due to the fermentation of glycine containing peptides which the assay organism could not utilize. However, the quantitative relations existing among the amounts of carbon dioxide, ammonia, and acetic acid produced were in agreement with the equation for the glycine fermentation. It is concluded, therefore, that glycine decomposition is the principal fermentative process produced by these organisms in complex media.