



A comparative study of enterotoxic and non-enterotoxic micrococci  
by David R Morledge

A THESIS Submitted to the Graduate Committee in partial fulfillment of the requirements for the degree of Master of Science in Bacteriology  
Montana State University  
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**Abstract:**

Eighteen strains of micrococci, ten of which had been isolated from cases of food-poisoning, were studied as to their physiological reactions and the ability of their boiled filtrates to invoke enterotoxicity in cats upon Intravenous injection.

All but one of the strains gave the same physiological reactions and morphological characteristics listed for *Micrococcus pyogenes* var. *aureus* in the sixth edition of Sergey's Manual, except that none of them was observed to produce hydrogen sulfide.

Incubation at 30°C brought about a more rapid liquefaction of gelatin by the strains than incubation at 37° C. The length of time the tubes were cooled after each incubation Influenced the observable liquefaction in some of the tubes.

Three of the strains were found enterotoxic to cats. In addition to having all the physiological characteristics of *Micrococcus pyogenes* var. *aureus*, these three strains were coagulytic, hemolytic, fibrinolytic, and gave a positive Stone reaction in 48 hours. Four strains not enterotoxic to cats gave these same reactions. No visible serological reaction was observed between homologous enterotoxin and rabbit serum.

The results of these experiments lead one to the same conclusion reached by most of the other workers on food-poisoning micrococci, namely, that at present there is no physiological characteristic successful in separating enterotoxic from non-enterotoxic micrococci.

A COMPARATIVE STUDY OF  
ENTEROTOXIC AND NON-ENTEROTOXIC MICROCOCCI

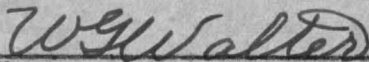
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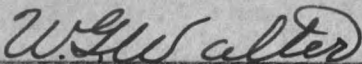
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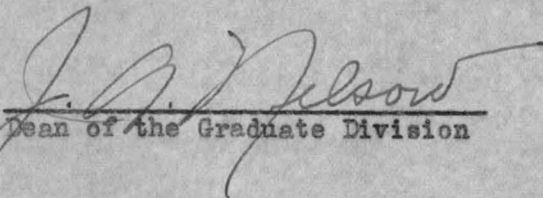
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Dean of the Graduate Division

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ABSTRACT

Eighteen strains of micrococci, ten of which had been isolated from cases of food-poisoning, were studied as to their physiological reactions and the ability of their boiled filtrates to invoke enterotoxicity in cats upon intravenous injection.

All but one of the strains gave the same physiological reactions and morphological characteristics listed for Micrococcus pyogenes var. aureus in the sixth edition of Bergey's Manual, except that none of them was observed to produce hydrogen sulfide.

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