Aristotle was born around 384 BC in Stagirus on the Chalcidic peninsula of northern Greece, to Nicomachus, a medical doctor, and Phaestis. Stagirus was his father's home, while Phaestis came from Chalcis in Euboea.

Hermias had gathered a group of philosophers on Assos. Aristotle became the leader of this group. Thanks to his father, he was very interested in Anatomy & Biology and was a great observer. Aristotle and his group began to collect observations while in Assos, in particular in Zoology & Biology. He also probably began writing Politics during these years as well as On Kingship, which hasn't survive to this day. Unfortunately, politics once again played a part in Aristotle's next move. When the Persians attacked Assos and captured Hermias, Aristotle escaped with many of his scientists to the island of Lesbos. They remained there for about a year, continuing their research.

Aristotle

(384 BC)
INTRODUCTION
INTRODUCTION

A taxonomically defined group of bacteria that has had a greater impact on infectious disease, medical and clinical microbiology and public health is *Enterobacteriaceae*. The family from its inception has been linked to the colonization of gastro-intestinal tract of humans and other vertebrates and to the pathologic processes that result from subsequent infection of the gut. The gastro-intestinal syndromes, caused by the enterobacteria, pale in comparison to their role as nosocomial pathogens. Nosocomial data indicate that many genera of *Enterobacteriaceae* such as *Escherichia*, *Enterobacter*, *Klebsiella* and *Serratia* cause a significant proportion of hospital-acquired bacteremia, urinary tract illness, respiratory tract disease and wound infections. Even more frightening has been the rapid rate at which they have developed antimicrobial resistance, particularly to extended-spectrum β-lactam compounds.

The taxonomic evolution of family *Enterobacteriaceae* has been a dynamic process and continued throughout the 1980s and 1990s. Today, there are more than 30 distinct genera and more than 100 species within the family. *Enterobacter* genus of family *Enterobacteriaceae* has gained in recent years the attention of taxonomists, microbiologists and clinicians alike.

The ancestry of genus *Enterobacter* is nebulous and confusing in older medical literature, but with the advent of DNA-DNA hybridization as a tool in taxonomic studies, a more precise species definition for inclusion in the genus *Enterobacter* has unfolded. *Enterobacter* species have been recovered from a
variety of environmental conditions. By far its most important epidemiologic trend over the past 15 years concerns its emergence as a major nosocomial pathogen.

With the advancement of technology, analysis of enterobacteria has become more complex. None of the area of infectious diseases is more apparent than the gastroenteritis. Once a limited field of etiologic agents is now known to contain more than 40 different species or groups associated with diarrheal disease. Many of these agents are members of the family Enterobacteriaceae. Likewise, it has been difficult for the medical and scientific community to keep up with the taxonomic revolution, which includes an ever-expanding list of genera and species within the enterobacteria. Laboratories geared to rapidly isolate and identify gram-negative pathogens with the use of automated commercial systems have a difficult task (i) they often have to confirm their primary identification by another method, (ii) they have to keep abreast of new agents and new disease associations, and (iii) they have to be aware of the risk factors related to nosocomial or community-acquired outbreak of disease.

The quest for pure water has led to the formulation of specific standards to provide a basis for judging the quality of water. These standards are exposure limits for bacteriological, viral, chemical and physical agents that have been adopted by governments or appropriate authorities and therefore have legal force. The purpose of standards is to minimise all the known health hazards, since it is obviously impossible to prevent all pollution. Supplies of drinking
water contaminated with sewage or other excreted matter from man and animals may cause diseases such as typhoid fever, cholera, campylobacteriosis, amoebiasis and helminthiasis.

Microorganisms for use, as indicators of faecal pollution should satisfy several criteria. They should be present in feces in greater numbers than any pathogen yet be unable to proliferate in water to any extent.

These indicators are usually common intestinal commensal bacteria, which are universally present in and excreted in large numbers by, man and animals and are rarely found in other sources. In themselves, they are not dangerous, but their presence indicates that faecal matter has entered the water supply, that the faecal bacteria have not been killed or removed by purification processes and that the supply is therefore liable to contamination with dangerous intestinal pathogen.

Usually a number of indicator organisms are sought, like:

(a) Coliforms

(b) Faecal streptococci

(c) Sulphite-reducing clostridia

(d) Pseudomonas aeruginosa

The clinical diagnosis of enterobacterial infections necessitates close working relationships between microbiologists, physicians, infectious disease specialists, pathologist, epidemiologists, and infections control personnel.

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