

Record: 1

Title: The Three Types of Bacteria.

Source: Monkeyshines on Health & Science; Mar2000 Microbiology, p17, 2p

Document Type: Article

Subject Terms: BACTERIA
CYANOBACTERIA
EUBACTERIALES
ARCHAEBACTERIA

Abstract: Presents information on the types of bacteria. Comparison and contrast among cyanobacteria, eubacteria and archaebacteria; Location; Attribution of worsening greenhouse effect to methanogen, a type of archaebacteria; Diversity of the Eubacteria group.

Lexile: 1000

Full Text Word Count: 439

Accession Number: 3648003

Database: Middle Search Plus

THE THREE TYPES OF BACTERIA

There are three divisions of the bacteria family.

Archaebacteria or "ancient" bacteria, Cyanobacteria or "blue-green" bacteria, Eubacteria or "true" bacteria.

Cyanobacteria and Eubacteria are very closely related. So close that microbiologists have often considered combining them into one group. Archaebacteria is so dissimilar to either of them that some microbiologists want them to have their own separate classification.

Archaebacteria are called ancient because they closely resemble the first prokaryotes that evolved on Earth. These are organisms that appear to have been relatively unchanged over billions of year. The most important difference between archaebacteria and eubacteria is that they have different RNA structures and different cell walls.

One type of archaebacteria is the methanogen. This type of bacteria resides in the mud of swamps and marshes and inside the intestines of many animals like cows and sheep. They are responsible for producing methane gas that later escapes from the cow. Scientists fear that an over abundance of these microbes and the methane they produce, could be contributing to the greenhouse effect.

Archaebacteria often live in places where other life could not. Many of them are anaerobic, meaning they don't need oxygen to survive, so they can live in places where it is impossible to breath.

Thermoacidophiles live in hot, acidic environments unbearable to most organisms like sulfur springs and volcanic vents in the ocean. Halophiles live in very salty environments like the Dead Sea, where the water is so salty that nothing else can live in it.

Cyanobacteria, or blue-green bacteria, can be found all over the world floating on water either alone or in clusters. They get their energy through photosynthesis the same way

plants do.

Every other imaginable type of bacteria is clumped into the Eubacteria group making it the most diverse group of the three. Some are aerobic (need oxygen to survive) while others are anaerobic (don't need oxygen). Some get their energy through photosynthesis like cyanobacteria, while others decompose other material and even others feed off of organisms as parasites.

In the 1800s, Danish doctor, Hans Gram, developed the "Gram test," allowing microbiologist to classify different types of bacteria.

The test uses a stain or dye that when applied to a sample will either turn all the bacteria violet (Gram-positive) or red (Gram negative).

Using this information microbiologist can separate bacteria into the correct division.

[Monkeyshines Trivia # 2](#)

2) How fast can a sneeze travel?

- a. 5 miles an hour
- b. 500 miles an hour
- c. 100 miles an hour
- d. 43 miles an hour (Clue on page 40) Answer on page 43

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