History of Microbiology and Taxonomy Cheat Sheet

by Nimisha (lemonbuzz) via cheatography.com/132716/cs/27418/

Important contributions

Robert Hooke	1665 - first drawing of microorganism published in Micrographia
Anton von Leeuwe-nhoek	father of microbiology 1676 - discovers “animalcules”
Louis Pasteur	1857 - describes fermentation 1861 - disproves spontaneous generation 1881 - develops anthrax vaccine 1885 - develops rabies vaccine
Robert Koch	1876–1877 Koch demonstrates anthrax caused by *Bacillus anthracis* 1881 - cultures bacteria on gelatin 1882 - discovers *Mycobacterium tuberculosis* 1884 - publish Koch's postulates
Joseph Lister	1867 - Lister publishes on antiseptic surgery - contributed to pure culture technique of bacteria
Alexander Fleming	1921 - discover lysozyme 1929 - discover penicillin, first antibiotic
John Tyndall	- discovered endospore form of bacteria - invented Tyndallization
Edward Jenner	- discovered smallpox vaccine
Martinus Beijerinck	- show role of microbes in cycling of matter - introduced enrichment cultures - discovered free living nitrogen fixing bacteria

Important contributions (cont)

Sergei Winogr-adsky	- discover chemolith-otrophy - Wingogradsky column

History of Classification

Linnaeus 1735	2 kingdom - Vegetable and Animal
Haeckel 1866	3 kingdom - Protist, Plant, Animal
Chatton 1925	2 empires - Prokaryote and Eukaryote
Copeland 1938	4 kingdom - Monera, Protista, Plant, Animal
Whittaker 1969	5 kingdom - Monera, Protista, Fungi, Plant, Animal
Carl Woese 1990	3 domain - Bacteria, Archaea, Eukarya
Cavalier Smith 1998	6 kingdom - Bacteria, Protista, Chromista, Fungi, Plant, Animal

Five Kingdom Concept

Main criteria	cell type, level of organisation, nutrition type
Demerits	1. no distinction b/w archaea and bacteria 2. Protista is highly hetero-geneous group 3. Algae distribution unrealistic. 4. Red and brown algae not related to other members of plantae. 5. No place for viruses.

Bacterial Taxonomy

Carl Woese	based on sequencing rRNA

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