

Systematic Botany. Lecture 28

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Outline

Questions and answers

Overview

Groups above phylum level

Phyla of living things

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Previous final question: the answer

Why it is still easy to find a new higher taxon (e.g., class) of protists?

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Why it is still easy to find a new higher taxon (e.g., class) of protists?

- ▶ Their morphology is sometimes similar, but DNA is not yet well researched
- ▶ They inhabit unusual places (like anoxic hot springs) and are more dependent on these habitats than higher organisms
- ▶ They are small

Overview

Groups above phylum level

Regnum MONERA [⁷*Bacillus*]

Subregnum ***Bacteria*** [^{6.8}*Bacillus*]*¹

Superphylum 1(1). *Terrabacteria* [^{6.2}*Bacillus*] s.a.

2(2). *Gracilicutes* [^{6.2}*Rhodospirillum*] s.a.

Subregnum ***Archaeobacteria*** [^{6.8}*Methanobacterium*]*

Regnum PROTISTA [⁷*Euglena*]*²

Subregnum *Panmycota*[†] [^{6.8}*Agaricus*]*

Superphylum 3(3). *Myconta*[†] [^{6.2}*Agaricus*]* s.a.
4(4). *Sarcobionta*[†] [^{6.2}*Amoeba*]

Subregnum *Excavata* [^{6.8}*Euglena*]

Subregnum *Panalgae*[†] [^{6.8}*Fucus*]

Infraregnum *Chromobionta* [^{6.5}*Fucus*] s.a.

Superphylum 5(5). *Rhizaria* [^{6.2}*Cercomonas*]
6(6). *Heteroconta* [^{6.2}*Fucus*]
7(7). *Alveolata* [^{6.2}*Paramecium*]

Infraregnum *Hacrobia* [^{6.5}*Cryptomonas*] s.m.

Infraregnum *Chlorobionta* [^{6.5}*Volvox*]

Regnum VEGETABILIA [⁷*Magnolia*]

Regnum ANIMALIA [⁷*Araneus*]

Subregnum *Spongia* [^{6.8}*Spongia*]

Subregnum *Ctenophora* [^{6.8}*Ctenoplana*]

Subregnum *Phagocytellozoa* [^{6.8}*Trichoplax*]

Subregnum *Cnidaria* [^{6.8}*Hydra*]

Subregnum *Bilateria* [^{6.8}*Araneus*]

Infraregnum Vetuliozoa [^{6.5}*Felis*]

Superphylum 8(8). *Acoelomorpha* [^{6.2}*Convoluta*] sed.m.

9(9). *Deuterostomia* [^{6.2}*Felis*]

Infraregnum Protostomia [^{6.5}*Araneus*]

Superphylum 10(10). *Spiralia* [^{6.2}*Nereis*]

11(11). *Chaetozoa*[†] [^{6.2}*Sagitta*]

12(12). *Ecdysozoa* [^{6.2}*Araneus*]

Overview

Phyla of living things

Regnum MONERA [⁷*Bacillus*]**Subregnum *Bacteria*** [^{6,8}*Bacillus*]*¹Superphylum *Terrabacteria* [^{6,2}*Bacillus*] s.a.Phylum 1(1). *Thermobacteria*[†] [⁶*Deinococcus*] s.a.2(2). *Obscurobacteres*[†]²3(3). *Actinobacteres*[†] [⁶*Actinomyces*]4(4). *Firmicutes* [⁶*Bacillus*] s.a., sed.m.³5(5). *Cyanobacteria* [⁶*Nostoc*]6(6). *Chloroflexes* [⁶*Chloroflexus*]⁴Superphylum *Gracilicutes* [^{6,2}*Rhodospirillum*] s.a.Phylum 7(7). *Elusimicrobia* [⁶*Elusimicrobium*] sed.m.8(8). *Synergistetes* [⁶*Synergistes*] sed.m.9(9). *Spirochaetae* [⁶*Spirochaeta*] sed.m.10(10). *Bacteroidetes* [⁶*Bacteroides*] s.a.⁵11(11). *Planctobacteria* [⁶*Planctomyces*]⁶12(12). *Proteobacteria* [⁶*Rhodospirillum*] s.a.

Subregnum *Archaeobacteria* [^{6,8}*Methanobacterium*]*Phylum 13(13). *Euryarchaeota* [⁶*Methanobacterium*]14(14). *Crenarchaeota* [⁶*Sulfolobus*]15(15). *Thaumarchaeota* [⁶*Cenarchaeum*]

Regnum PROTISTA [⁷*Euglena*]*⁷Subregnum ***Panmycota***[†] [^{6,8}*Agaricus*]*Superphylum *Myconta*[†] [^{6,2}*Agaricus*]* s.a.Phylum 16(16). *Choanozoa* [⁶*Codosiga*] s.a.17(17). *Nucleamycota*[†] [⁶*Nuclearia*]18(18). *Eomycota*[†] [⁶*Mucor*]* s.a.19(19). *Microsporidia* [⁶*Microsporidium*]20(20). *Basidiomycota* [⁶*Agaricus*]21(21). *Ascomycota* [⁶*Ascomyces*]⁸Superphylum *Sarcobionta*[†] [^{6,2}*Amoeba*]Phylum 22(22). *Amoebozoa* [⁶*Amoeba*]⁹23(23). *Apusozoa* [⁶*Apusomonas*] s.a.Subregnum ***Excavata*** [^{6,8}*Euglena*]Phylum 24(24). *Metamonada* [⁶*Trichomonas*] s.a.25(25). *Discoba* [⁶*Euglena*] s.a.

Final question (4 points)

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For each kingdom, list at least one representative phylum.

For Further Reading



Margulis and Chapman. 2009.

Kingdoms and domains: an illustrated guide to the phyla of life on Earth. 4th edition.