

## Apéndice

**Cuadro 1.** Clasificación de las bacterias (sólo se nombran algunas familias) (1)

| Dominio                    | Filum  | Clase   | Orden  |                                       |  |
|----------------------------|--|---|--|---------------------------------------|--|
| Archaea                    | Crenarchaeota  | <i>Thermoprotei</i>                               | <i>Thermoproteales</i><br><i>Desulfurococcales</i><br><i>Sulfolobales</i><br><i>Acidicilobales</i><br><i>Fervidicoccales</i> |                                       |  |
|                            | Euryarchaeota  | <i>Methanobacteria</i>                            | <i>Methanobacteriales</i>  |                                       |  |
|                            |  | <i>Methanococci</i>                               | <i>Methanococcales</i>   |                                       |  |
|                            |  | “ <i>Methanomicrobia</i> ”                        | <i>Methanomicrobiales</i><br><i>Methanocellales</i><br><i>Methanosarcinales</i>  |                                       |  |
|                            |  | <i>Halobacteria</i>                               | <i>Halobacteriales</i>   |                                       |  |
|                            |  | <i>Thermoplasmata</i>                             | <i>Thermoplasmatales</i>   |                                       |  |
|                            |  | <i>Thermococci</i>                                | <i>Thermococcales</i>  |                                       |  |
|                            |  | <i>Archaeoglobi</i>                               | <i>Archaeoglobales</i>   |                                       |  |
|                            | <i>Methanopyri</i>   | <i>Methanopyrales</i>                             |  |                                       |  |
|                            | “ <i>Korarchaeota</i> ”  | ...   | “ <i>Candidatus Korarchaeum</i> ”  |                                       |  |
| “ <i>Nanoarchaeota</i> ”   | ...  | “ <i>Nanoarchaeum</i> ”                           |  |                                       |  |
| “ <i>Thaumarchaeota</i> ”  | ...  | <i>Cenarchaeales</i>                              |  |                                       |  |
| Eubacteria                 | <i>Acidobacteria</i>   | <i>Acidobacteria</i>                              | <i>Acidobacteriales</i>  |                                       |  |
|                            |  | <i>Holophagae</i>                                 | <i>Acanthopleurobacterales</i><br><i>Holophagales</i>  |                                       |  |
|                            | <i>Actinobacteria</i>  | <i>Actinobacteria</i>                             |  | <i>Acidimicrobiales</i>               |  |
|                            |  |   |  | <i>Actinomycetales</i><br>sub-órdenes | <i>Actinomycineae</i><br><i>Actinopolysporineae</i><br><i>Catenulisporineae</i><br><i>Corynebacterineae</i><br><i>Frankineae</i><br><i>Glycomycineae</i><br><i>Jiangellineae</i><br><i>Kineosporiineae</i><br><i>Micrococcineae</i><br><i>Micromonasporineae</i><br><i>Propionibacterineae</i><br><i>Pseudonocardineae</i><br><i>Streptomycineae</i><br><i>Streptosporangineae</i> |
|                            |  |   |  | <i>Bifidobacteriales</i>              |  |
|                            |  |   |  | <i>Coriobacteriales</i>               |  |
|                            |  |   |  | <i>Euzebyales</i>                     |  |
|                            |  |   |  | <i>Nitiliruptorales</i>               |  |
|                            |  |   |  | <i>Gaiellales</i>                     |  |
|                            | <i>Rubrobacterales</i><br><i>Solirubrobacterales</i><br><i>Thermoleophilales</i> |   |  |                                       |  |
| “ <i>Aquificae</i> ”       | <i>Aquificae</i>   | <i>Aquificales</i>                                |  |                                       |  |
| “ <i>Armatimonadetes</i> ” | <i>Armatimonadia</i>   | <i>Armatimonadales</i><br><i>Chthonomonadales</i> |  |                                       |  |
|                            | <i>Fimbrimonadia</i>   | <i>Fimbrimonadales</i>                            |  |                                       |  |

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|---------------------|-----------------------|--------------------------|---|
| Eubacteria<br>cont. | "Bacteroidetes"       | <i>Bacteroidia</i>       | <i>Bacteroidales</i>  |
|                     |                       | <i>Cytophaga</i>         | <i>Cytophagales</i>   |
|                     |                       | <i>Flavobacteriia</i>    | <i>Flavobacteriales</i>   |
|                     |                       | <i>Sphingobacteriia</i>  | <i>Sphingobacteriales</i>   |
|                     | "Caldiserica"         | <i>Caldisericia</i>      | <i>Caldisericales</i>   |
|                     | "Chlamydiae"          | <i>Chlamydiae</i>        | <i>Chlamydiales</i>   |
|                     | "Chlorobi"            | <i>Chlorobia</i>         | <i>Chlorobiales</i>   |
|                     |                       | <i>Ignavibacteria</i>    | <i>Ignavibacteriales</i>  |
|                     | "Chloroflexi"         | <i>Chloroflexia</i>      | <i>Chloroflexales</i><br><i>Herpetosiphonales</i>   |
|                     |                       | <i>Anaerolineae</i>      | <i>Anaerolineales</i>   |
|                     |                       | <i>Caldilineae</i>       | <i>Caldineales</i>  |
|                     |                       | <i>Dehalococcoidia</i>   | <i>Dehalococcoidales</i>  |
|                     |                       | <i>Ktenodonobacteria</i> | <i>Ktenodonobacteriales</i><br><i>Thermogemmatisporales</i>   |
|                     |                       | <i>Thermomicrobia</i>    | <i>Thermomicrobiales</i><br><i>Sphaerobacterales</i>  |
|                     | "Chrysiogenetes"      | <i>Chrysiogenetes</i>    | <i>Chrysiogenales</i>   |
|                     | Cyanobacteria         | Cyanobacteria            | <i>Chroococcales</i><br><i>Gloeobacterales</i><br><i>Nostocales</i><br><i>Oscillatoriales</i><br><i>Pleurocapsales</i><br><i>Prochlorophytes</i><br><i>Stigonematales</i>   |
|                     | "Deferribacteres"     | <i>Deferribacteres</i>   | <i>Deferribacterales</i>  |
|                     | "Deinococcus-Thermus" | <i>Deinococci</i>        | <i>Deinococcales</i><br><i>Thermales</i>  |
|                     | "Dictyoglomi"         | <i>Dictyoglomia</i>      | <i>Dyctyoglomus</i>   |
|                     | "Elusimicrobia"       | <i>Elusimicrobia</i>     | <i>Elusimicrobiales</i>   |
| "Fibrobacteres"     | <i>Fibrobacteria</i>  | <i>Fibrobacterales</i>   |   |
| "Firmicutes"        | Bacilli               | Bacillales familias      | <i>Alicyclobacillaceae</i><br><i>Bacillaceae</i><br><i>Listeraceae</i><br><i>Paenibacillaceae</i><br><i>Pasteuriaceae</i><br><i>Planococcaceae</i><br><i>Sporolactobacillaceae</i><br><i>Thermoactinomyetaceae</i>  |
|                     |                       | Lactobacillales familias | <i>Aerococcaceae</i><br><i>Carnobacteriaceae</i><br><i>Enterococcaceae</i><br><i>Lactobacillaceae</i><br><i>Leuconostocaceae</i><br><i>Streptococcaceae</i>   |
|                     | Clostridia            | Clostridiales familias   | <i>Caldicoprobacteraceae</i><br><i>Christensenellaceae</i><br><i>Clostridiaceae</i><br><i>Defluviitaleaceae</i><br><i>Eubacteriaceae</i><br><i>Gracilibacteraceae</i><br><i>Heliobacteriaceae</i><br><i>Lachnospiraceae</i><br><i>Oscillospiraceae</i><br><i>Peptococcaceae</i> |

|                     |                    |                            |  |  |  |
|---------------------|--------------------|----------------------------|--|--|--|
| Eubacteria<br>cont. | "Firmicutes" cont. | Clostridia cont.           | Clostridiales cont.  | <i>Peptostreptococcaceae</i><br><i>Ruminococeaceae</i><br><i>Syntrophomonadaceae</i> |  |
|                     |                    |                            | Halanaerobiales<br>Natranaerobiales<br>Thermoanaerobacteriales   |  |  |
|                     |                    | <i>Erysipelotrichia</i>    | <i>Erysipelotrichales</i>  |  |  |
|                     |                    | Negativicutes              | <i>Selenomonadales</i>   |  |  |
|                     |                    | <i>Thermolithobacteria</i> | <i>Thermolithobacteriales</i>  |  |  |
|                     | "Fusobacteria"     | <i>Fusobacteriia</i>       | <i>Fusobacteriales</i>   |  |  |
|                     | Proteobacteria     | Alphaproteo-<br>bacteria   | <i>Caulobacterales</i><br><i>Kiloniellales</i><br><i>Kordiimonadales</i><br><i>Magnetococcales</i><br>"Parvularculales"<br><i>Rhizobiales</i><br><i>Rhodobacterales</i><br><i>Rhodospirallales</i><br><i>Rickettsiales</i><br><i>Sneathiellales</i><br><i>Sphingomonadales</i> |  |  |
|                     |                    |                            | <i>Burkholderiales</i><br><i>Hydrogenophilales</i><br><i>Methylophilales</i><br><i>Neisseriales</i><br><i>Nitrosomonadales</i><br>"Procabacteriales"<br><i>Rhodocyclales</i>   |  |  |
|                     |                    |                            | <i>Bdellovibrionales</i><br><i>Desulfarculales</i><br><i>Desulfobacterales</i><br><i>Desulfovibrionales</i><br><i>Desulfurellales</i><br><i>Desulfuromonadales</i><br><i>Myxococcales</i><br><i>Syntrophobacteriales</i>   |  |  |
|                     |                    |                            | <i>Epsilonproteo-<br/>bacteria</i>   |  | <i>Campylobacteriales</i><br><i>Nautiliales</i>  |
|                     |                    |                            | Proteobacteria   |  | <i>Acidithiobacillales</i><br><i>Aeromonadales</i><br><i>Alteromonadales</i><br><i>Cardiobacteriales</i><br><i>Chromatiales</i><br>"Enterobacteriales"<br><i>Legionellales</i><br><i>Methylococcales</i><br><i>Oceanopirillales</i><br><i>Pasterurellales</i><br><i>Pseudomonadales</i><br>"Salinisphaerales"<br><i>Thiotrichales</i><br>"Vibrionales"<br><i>Xanthomonadales</i> |
|                     |                    |                            | "Zetaproteo-<br>bacteria"  |  | "Mariprofundales"  |

|                     |                         |                              |   |
|---------------------|-------------------------|------------------------------|---|
| Eubacteria<br>cont. | "Gemmatiomonadetes"     | Gemmatimonadetes             | Gemmatiomonadales   |
|                     | "Lentisphaerae"         | Lentisphaeria                | Lentisphaerales<br>Victivallales  |
|                     |                         | Oligosphaeria                | Oligosphaerales   |
|                     | "Nitrospira"            | "Nitrospira"                 | "Nitrospirales"   |
|                     | "Planctomycetes"        | Planctomycetacia             | Planctomycetales  |
|                     |                         | Phycisphaerae                | Phycisphaerales   |
|                     | "Synergistetes"         | Synergistia                  | Synergistales   |
|                     | "Spirochaetes"          | Spirochaetes                 | Spirochaetales  |
|                     | Tenericutes             | Mollicutes                   | Acholeplasmatales<br>Anaeroplasmatales<br>Entomoplasmatales<br>Haloplasmatales<br>Mycoplasmatales |
|                     | "Thermodesulfobacteria" | Thermodesulfobacteria        | Thermodesulfobacterium  |
| "Thermotogae"       | Thermotogae             | Thermotogales                |   |
| Verrucomicrobia     | Verrucomicrobiae        | Verrucomicrobiales           |   |
|                     | Opitutae                | Opitiales<br>Puniceicoccales |   |

**Cuadro 2.** Clasificación de los hongos y organismos relacionados (2)

| Reino                | Phylum / subphylum           | Clase / subclase        | Orden  |  |
|----------------------|------------------------------|-------------------------|--|--|
| FUNGI                | <b>Chytridiomycota</b>       | Chytridiomycetes        | Chytridiales<br>Rhizophydiales<br>Spizellomycetales                |  |
|                      |                              | Monoblepharidomycetes   | Monoblepharidales  |  |
|                      | <b>Neocallimastigomycota</b> | Neocallismastigomycetes | Neocallimastigales   |  |
|                      | <b>Blastocladiomycota</b>    | Blastocladiomycetes     | Blastocladales   |  |
|                      | <b>Microsporidia</b>         |                         |  |  |
|                      | <b>Glomeromycota</b>         | Glomeromycetes          | Archaeosporales<br>Diversisporales<br>Glomerales<br>Paraglomerales |  |
|                      | <b>Zygomycota</b>            | Mucormycotina           |  | Mucorales<br>Endogonales<br>Mortierellales |
|                      |                              | Entomophoromycotina     |  |  |
|                      |                              | Kickxellomycotina       |  |  |
|                      |                              | Zoopagomycotina         |  |  |
|                      | <b>Ascomycota</b>            | Taphrinomycotina        |  |  |
|                      |                              | Saccharomycotina        |  |  |
|                      |                              | Pezizomycotina          |  |  |
| <b>Basidiomycota</b> | Agarico-                     | Tremellomycetes         | Cystofilobasidiales  |  |

|                  |                        |                                 |                                    |   |
|------------------|------------------------|---------------------------------|------------------------------------|---|
|                  |                        | <i>mycotina</i>                 |                                    | <i>Filobasidiales</i><br><i>Tremellales</i>   |
|                  |                        |                                 | <i>Dacrymycetes</i>                | <i>Dacrymycetales</i>   |
|                  |                        |                                 | <i>Agarico-<br/>mycetidae</i>      | <i>Agaricales</i><br><i>Atheliales</i><br><i>Boletales</i>  |
|                  |                        |                                 | <i>Phallo-<br/>mycetidae</i>       | <i>Geastrales</i><br><i>Gomphales</i><br><i>Hysterangiales</i><br><i>Phallales</i>  |
|                  |                        | <i>Agarico-<br/>mycetes</i>     | <i>incertae<br/>sedis</i>          | <i>Auriculariales</i><br><i>Cantharellales</i><br><i>Corticiales</i><br><i>Gloeophyllales</i><br><i>Hymenochaetales</i><br><i>Polyporales</i><br><i>Russulales</i><br><i>Sebacinales</i><br><i>Thelephorales</i><br><i>Trechisporales</i> |
|                  |                        | <i>incertae<br/>sedis</i>       | <i>Wallemiomycetes</i>             | <i>Wallemiales</i>  |
|                  |                        |                                 | <i>Entorrhizomycetes</i>           | <i>Entorrhizales</i>  |
|                  |                        |                                 | <i>Ustilaginomycetes</i>           | <i>Urocystales</i><br><i>Ustilaginales</i>  |
|                  |                        | <i>Ustilagino-<br/>mycotina</i> | <i>Exobadisiomycetes</i>           | <i>Doassansiales</i><br><i>Entylomatales</i><br><i>Exobasidiales</i><br><i>Georgefischeriales</i><br><i>Microstomatales</i><br><i>Tilletiales</i>   |
|                  |                        |                                 | <i>incertae sedis</i>              | <i>Malasseziales</i>  |
|                  |                        |                                 | <i>Pucciniomycetes</i>             | <i>Septobasidiales</i><br><i>Pachnocybales</i><br><i>Helicobasidiales</i><br><i>Platyglloeales</i><br><i>Pucciniales</i>  |
|                  |                        |                                 | <i>Cystobasidiomycetes</i>         | <i>Cystobasidiales</i><br><i>Erythrobasidiales</i><br><i>Naohideales</i>  |
|                  |                        | <i>Puccinio-<br/>mycotina</i>   | <i>Agaricostilbomycetes</i>        | <i>Agaricostilbales</i><br><i>Spiculogloeales</i>   |
|                  |                        |                                 | <i>Microbotryomycetes</i>          | <i>Heterogastridiales</i><br><i>Microbotryales</i><br><i>Leucosporidiales</i><br><i>Sporidiobolales</i>   |
|                  |                        |                                 | <i>Atractiellomycetes</i>          | <i>Atractiellales</i>   |
|                  |                        |                                 | <i>Classiculomycetes</i>           | <i>Classiculales</i>  |
|                  |                        |                                 | <i>Mixiomycetes</i>                | <i>Mixiales</i>   |
|                  |                        |                                 | <i>Cryptomycocola-<br/>mycetes</i> | <i>Cryptomycocolacales</i>  |
| <b>CHROMISTA</b> | <b><i>Oomycota</i></b> |                                 | <i>Oomycetes</i>                   | <i>Leptomitales</i><br><i>Myzocytiopsidales</i><br><i>Olpidiopsidales</i>   |

|                 |                                    |                            |   |
|-----------------|------------------------------------|----------------------------|---|
|                 |                                    |                            | <i>Peronosporales</i><br><i>Pythiales</i><br><i>Rhipidiales</i><br><i>Salilagenidiales</i><br><i>Saprolegniales</i><br><i>Sclerosporales</i><br><i>Anisolpidiales</i><br><i>Lagenismatales</i><br><i>Rozellopsidales</i><br><i>Haptoglossales</i> |
|                 | <b><i>Labyrinthulomycota</i></b>   | <i>Labyrinthulomycetes</i> | <i>Labyrinthulales</i>  |
|                 | <b><i>Hyphochytriomycota</i></b>   | <i>Hyphochytriomycetes</i> | <i>Hyphochytriales</i>  |
| <b>PROTOZOA</b> | <b><i>Plasmodiophoromycota</i></b> | <i>Plasmodiophomycetes</i> | <i>Plasmodiophorales</i>  |
|                 | <b><i>Myxomycota</i></b>           | <i>Dictyosteliomycetes</i> | <i>Dictyosteliales</i>  |
|                 |                                    | <i>Myxomycetes</i>         | <i>Echinosteliales</i><br><i>Liceales</i><br><i>Physariales</i><br><i>Stemonitales</i><br><i>Trichiales</i>   |
|                 |                                    | <i>Protosteliomycetes</i>  | <i>Protosteliales</i>   |
|                 | <b><i>Acrasiomycota</i></b>        | <i>Acrasiomycetes</i>      | <i>Acrasiales</i>   |
|                 | <b><i>Choanozoa</i></b>            | <i>Mesomycetozoea</i>      | <i>Amoebidiales</i><br><i>Eccrinales</i>  |

## Referencias

1. Euzéby JP. 2013. List of Prokaryotic names with standing in nomenclature. <http://www.bacterio.cict.fr/clasifphyla.html> (mayo 23)
2. Moore D. *et al.* 2011. 21 st Century Guidebook to Fungi. Cambridge University Press, part vii.