

Systema Naturae.

The classification of living organisms.

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Preface

Most of researches agree that kingdom-level classification of living things needs the special rules and principles. Two approaches are possible: (a) tree-based, Hennigian approach will look for main dichotomies inside so-called “Tree of Life”; and (b) space-based, Linnaean approach will look for the key differences inside “Natural System” multidimensional “cloud”. Despite of clear advantages of tree-like approach (easy to develop rules and algorithms; trees are self-explaining), in many cases the space-based approach is still preferable, because it let us to summarize any kinds of taxonomically related data and to compare different classifications quite easily. This approach also lead us to four-kingdom classification, but with different groups: **Monera**, **Protista**, **Vegetabilia** and **Animalia**, which represent different steps of increased complexity of living things, from simple prokaryotic cell to compound eukaryotic cell and further to tissue/organ cell systems.

The classification

Only recent taxa. Viruses are not included. Abbreviations: incertae sedis (i.s.); pro parte (p.p.); sensu lato (s.l.); sedis mutabilis (sed.m.); sedis possibilis (sed.poss.); sensu stricto (s.str.); status mutabilis (stat.m.); quotes for “environmental” groups; asterisk for paraphyletic* taxa.

Regnum Monera

Superphylum *Archebacteria*

Phylum 1. ARCHEBACTERIA

- Classis 1(1). *Euryarcheota*¹
- 2(2). *Nanoarchaeota*
- 3(3). *Crenarchaeota*²

Superphylum *Bacteria*³

Phylum 2. FIRMICUTES⁴

- Classis 1(4). *Thermotogae* sed.m.
- 2(5). *Clostridia*⁵
- 3(6). *Mollicutes*
- 4(7). *Bacilli*

Phylum 3. ACTINOBACTERIA

- Classis 1(8). *Actinobacteria*

Phylum 4. HADOBACTERIA

- Classis 1(9). *Hadobacteria*⁶

Phylum 5. CHLOROBACTERIA⁷

- Classis 1(10). *Ktedonobacteria* sed.m.
- 2(11). *Thermomicrobia*
- 3(12). *Chloroflexi*
- 4(13). *Dehalococcoidetes*
- 5(14). *Anaerolineae*⁸

¹Incl. Methanobacteria, Methanococci, Methanomicrobia, Halobacteria, Thermoplasmata sed.m., Thermococci, Archaeoglobi, Methanopyri.

²Incl. "Korarchaeota", "C1" (*Crenarchaeum*).

³Incl. "Nanobacteria" i.s. et dubitativa, "OP11 group" i.s.

⁴Incl. "TM7" i.s., "OP9".

⁵Incl. Fusobacteria sed.m., Dictyoglomi sed.m., Thermolithobacteria.

⁶= *Deinococcus-Thermus* group.

⁷*Thermobaculum* i.s.

⁸Incl. Caldilineae.

Phylum 6. CYANOBACTERIA

- Classis 1(15). *Gloeobacteria*
- 2(16). *Chroobacteria*⁹
- 3(17). *Hormogoneae*

Phylum 7. SPIROCHAETES

- Classis 1(18). *Spirochaetes*

Phylum 8. BACTEROIDETES¹⁰

- Classis 1(19). *Fibrobacteres*
- 2(20). *Chlorobi*
- 3(21). *Salinibacteria*¹¹
- 4(22). *Bacteroidetes*¹²

Phylum 9. PLANCTOBACTERIA¹³

- Classis 1(23). *Gemmatimonadetes* sed.m.
- 2(24). *Poribacteria*
- 3(25). *Lentisphaerae*
- 4(26). *Verrumicrobiae*¹⁴
- 5(27). *Chlamydiae*
- 6(28). *Planctobacteria*

Phylum 10. PROTEOBACTERIA

- Classis 1(29). *Aquificae* sed.m.¹⁵
- 2(30). *Thiobacteria*¹⁶
- 3(31). *Rhodobacteria*¹⁷
- 4(32). *Geobacteria* sed.m.¹⁸
- 5(33). *Acidobacteria* sed.m.

⁹Incl. Prochlorophyceae, *Acaryochloris*.

¹⁰Incl. "TG3".

¹¹Incl. *Salinibacter*.

¹²Incl. Flavobacteria, Sphingobacteria.

¹³Incl. "OP3", *Ovibacter* i.s.

¹⁴Incl. Opiritae, Spartobacteria.

¹⁵Incl. Desulphurobacteriaceae.

¹⁶= Deltaproteobacteria, Epsilonproteobacteria, Thermodesulfobacteria sed.m.

¹⁷Incl. Alphaproteobacteria, Betaproteobacteria, Gammaproteobacteria.

¹⁸Incl. Chrysiogenetes, Nitrospira, *Calditrix*, *Deferribacteres* (= Synergistes).

Phylum 11. ENDOMICROBIA
Classis 1(34). *Endomicrobia* ¹⁹

Regnum Protista*

Superphylum *Opisthokonta*

Phylum 12. CHOANOZOA

Classis 1(35). *Capsasporea*
2(36). *Choanomonadea* ²⁰
3(37). *Ichtyosporea* ²¹
4(38). *Nucleariacea* ²²

Phylum 13. EOMYCOTA*

Classis 1(39). *Chytridiomycetes* ²³
2(40). *Blastocladiomycetes* ²⁴
3(41). *Rozellomycetes* ²⁵
4(42). *Kickxellomycetes* ²⁶
5(43). *Mucoromycetes* ²⁷
6(44). *Glomeromycetes*

Phylum 14. MICROSPORIDIA

Classis 1(45). *Microsporea* ²⁸

Phylum 15. BASIDIOMYCETES

Subphylum *Ustilagomycotina*

Classis 1(46). *Entorrhizomycetes* sed.m.
2(47). *Wallemiomycetes* sed.m.

¹⁹= "TG1".

²⁰Incl. *Ministeria* stat.m.

²¹Incl. *Amoebidium*, Eccrinales, Aphelidea, *Corallochytrium*.

²²Incl. Nucleariidae, Pompholyxophryidae sed.m.

²³Incl. Neocallimastigales.

²⁴Incl. Blastocladiales.

²⁵Incl. *Rosella*, *Olpidium* et *Cauloocytrium* sed.m.

²⁶Incl. Basidiobolaceae, Harpellales, Zoopagales, Entomophthorales, *Nephridiophaga*, Asellariales sed.m.

²⁷Incl. Endogonales, Mortierellales.

²⁸Incl. Metchnikovellida sed.m., *Mikrocytos mackini* sed.m.

3(48). *Exobasidiomycetes*

4(49). *Ustilaginomycetes*

Subphylum *Pucciniomycotina*

Classis 5(50). *Pucciniomycetes*

6(51). *Atractiellomycetes*

7(52). *Cystobasidiomycetes*

8(53). *Agaricostilbomycetes*

9(54). *Microbotryomycetes*²⁹

10(55). *Mixiomycetes*³⁰

Subphylum *Agaricomycotina*

Classis 11(56). *Tremellomycetes*

12(57). *Dacrymycetes*

13(58). *Agaricomycetes*

Phylum 16. ASCOMYCETES

Subphylum *Taphrinomycotina**

Classis 1(59). *Taphrinomycetes*³¹

2(60). *Schizocaccharomycetes*³²

3(61). *Saccharomycetes*

4(62). *Neoelectomycetes*

Subphylum *Pezizomycotina*

Classis 5(63). *Orbiliomycetes*

6(64). *Pezizomycetes*

7(65). *Dothideomycetes*³³

8(66). *Eurotiomycetes*

9(67). *Lecanoromycetes*³⁴

10(68). *Laboulbeniomycetes*

11(69). *Leotiomycetes*

12(70). *Sordariomycetes*

²⁹Incl. Cryptomycocolacales, Classiculales.

³⁰= *Mixia*.

³¹Incl. *Saitoella*.

³²Incl. *Pneumocystis*.

³³Incl. Arthoniales.

³⁴Incl. Lichniales.

Superphylum *Sarcomastigonta**

Phylum 17. AMOEBOZOA sed.m.³⁵

Subphylum *Lobosea*

- Classis 1(71). *Tubulinea*³⁶
- 2(72). *Stereomyxida*
- 3(73). *Acanthamoebidae*³⁷
- 4(74). *Flabellinea*

Subphylum *Conosea*

- Classis 5(75). *Phalansterea*³⁸
- 6(76). *Multiciliatea*³⁹
- 7(77). *Filamoebae*
- 8(78). *Masigamoebidae*⁴⁰
- 9(79). *Dictyostelia*
- 10(80). *Myxomycetes*⁴¹

Phylum 18. APUSOZOA sed.m.⁴²

- Classis 1(81). *Apusomonadea*⁴³
- 2(82). *Breviatea* sed.m.⁴⁴
- 3(83). *Anisomonadea* sed.m.⁴⁵

Phylum 19. CERCOZOA

Subphylum *Monadofilosea*

- Classis 1(84). *Imbricatea*⁴⁶
- 2(85). *Thecofilosea*⁴⁷

³⁵Incl. 'X-cells' i.s.

³⁶Incl. Copromyxidae sed.m., *Fonticula* sed.m.

³⁷Incl. *Mayorella*, *Platyamoeba*.

³⁸= *Phalansterium*.

³⁹= *Multicilia*, *Gephyramoeba* sed.m.

⁴⁰Incl. *Pelomyxa* sed.m., *Entamoeba*, *Endolimax*, *Endamoeba*.

⁴¹Incl. *Hyperamoeba* aggr., Protostelida sed.m.

⁴²Incl. *Micronuclearia* i.s.

⁴³Incl. *Amastigomonas*, *Apusomonas*, *Ancyromonas* sed.m.

⁴⁴= *Breviata*; sed.poss. intra Excavata.

⁴⁵Incl. *Diphyllia*, *Collodictyon*, *Sulcomonas*; sed.poss. intra Excavata.

⁴⁶Incl. Euglyphida, Spongomonadida, Thaumatomonadida.

⁴⁷Cryomonadida, Phaeodarea, Ebriida, *Protaspis*.

- 3(86). *Sarcomonadida** ⁴⁸
 4(87). *Proteomyxidea* ⁴⁹
 5(88). *Chlorarachniophyceae* ⁵⁰

Subphylum *Retaria*

- Classis 6(89). *Plasmodiophorea* ⁵¹
 7(90). *Gromiea* ⁵²
 8(91). *Ascetosporea* ⁵³
 9(92). *Foraminifera* ⁵⁴

Subphylum *Radiolaria*

- Classis 10(93). *Spumellaria* ⁵⁵
 11(94). *Acantharia*
 12(95). *Polycystinea* s.str. ⁵⁶

Superphylum *Excavata*

Phylum 20. METAMONADA

- Classis 1(96). *Malawimonadea* sed.m. ⁵⁷
 2(97). *Preaxostyla* ⁵⁸
 3(98). *Fornicata* ⁵⁹
 4(99). *Parabasalea* ⁶⁰

Phylum 21. EUGLENOZOA

- Classis 1(100). *Jacobeia* ⁶¹

⁴⁸Incl. *Metopion* sed.m.

⁴⁹Incl. Desmothoracida, Gymnosphaerida, Dimorphida, Gymnophrea, *Pseudospora*, *Leucodictyon*, *Reticuloamoeba*, *Massisteria*.

⁵⁰Incl. *Metromonas*, *Sainouron* sed.m.

⁵¹Incl. *Phagomyxa*, *Phagodinium* sed.m., *Pseudospora* sed.m.

⁵²= *Gromia*.

⁵³Incl. Paramyxidia, Haplosporidia, *Bonamia*, *Claustrosporidium*.

⁵⁴Incl. *Reticulomyxa*, Komokiaceae sed.m., Xenophyophorea, *Schizocladus*.

⁵⁵Incl. *Sticholonche* sed.m.

⁵⁶Incl. Collodaria, Nassellarida.

⁵⁷Sed.poss. intra Euglenozoa.

⁵⁸Incl. Oxymonadida, *Trimastix*.

⁵⁹Incl. Retortamonadida, Diplomonadida, *Carpediemonas*, *Dysnectes*.

⁶⁰Incl. Trichomonadida, Hypermastigida.

⁶¹Incl. *Andalucia*.

- 2(101). *Heterolobosea* ⁶²
 3(102). *Hemimastigea* sed.m. ⁶³
 4(103). *Pseudociliata* sed.m. ⁶⁴
 5(104). *Euglenophyceae* ⁶⁵
 6(105). *Saccostoma* ⁶⁶

Superphylum *Alveolata*

Phylum 22. DINOZOA

- Classis 1(106). *Apicomonadea* * ⁶⁷
 2(107). ‘*RM12*’ ⁶⁸
 3(108). *Conoidasida* ⁶⁹
 4(109). *Aconoidasida* ⁷⁰
 5(110). *Ellobiopsea* ⁷¹
 6(111). *Syndinea* ⁷²
 7(112). *Oxyrridea* ⁷³
 8(113). *Dinoflagellata*

Phylum 23. CILIOPHORA

- Classis 1(114). *Karyorelictea*
 2(115). *Heterotrichea*
 3(116). *Spirotrichea* ⁷⁴
 4(117). *Armophorea*
 5(118). *Litostomatea*

⁶²Incl. *Pleurostomum*.

⁶³Incl. *Hemimastix*, *Spiroonema*, *Stereonema*, *Paramastix* sed.m.

⁶⁴= *Stephanopogon*.

⁶⁵= *Plicostoma*; incl. *Diplonemea*.

⁶⁶Incl. *Kinetoplastea*, *Calkinsia*, *Postgaardi*.

⁶⁷Incl. *Colponema* sed.m. *Algovora*, *Myzomonadea* (*Voromonas*, *Aplphamonas*, *Chilovora*), *Perkinsida* (*Perkinsus*, *Rastrimonas*, *Parvilucifera*, *Phagodinium*), *Colpodellida* (*Colpodella*, *Acrocoelus*).

⁶⁸Photosynthetic apicoplast-bearer with alveoli (Walker, 2007).

⁶⁹Incl. *Gregarina*, *Cryptosporidium*, *Selenidium*, *Rhytidicystis*, *Coccidia* sed.m.

⁷⁰Incl. *Haemosporidia*, *Piroplasmida*, *Nephromyces*.

⁷¹Incl. *Ellobiopsis*, *Ellobiocystis*, *Parallobiopsis*, *Rhizellobiopsis*, *Thalassomyces*.

⁷²Incl. *Syndiniales* (“Marine Alveolate Group II”), *Dubosquellaceae* (“Marine Alveolate Group I”).

⁷³= *Oxyrris*.

⁷⁴Incl. *Protocruzia*, *Phacodinium*, *Lycnophora*.

- 6(119). *Phyllopharyngea* ⁷⁵
 7(120). *Nassophorea*
 8(121). *Colpodea*
 9(122). *Prostomatea*
 10(123). *Plagiopylea*
 11(124). *Oligohymenophorea*

Superphylum *Chromista*

Phylum 24. LABYRINTHOMORPHA

- Classis 1(125). *Labyrinthulea* ⁷⁶

Phylum 25. BICOECEA

- Classis 1(126). *Bicoecea* ⁷⁷

Phylum 26. OPALOOA

- Classis 1(127). *Blastocystea*
 2(128). *Opalineae* ⁷⁸
 3(129). *Actinophryida* sed.m. ⁷⁹

Phylum 27. OOMYCOTA

- Classis 1(130). *Oomycetes* ⁸⁰

Phylum 28. CHROMOPHYTA

- Classis 1(131). *Bacillariophyceae* s.l. ⁸¹
 2(132). *Chrysophyceae* s.l. ⁸²
 3(133). *Hypogyrophyceae* stat.m. ⁸³
 4(134). *Raphidophyceae*

⁷⁵Incl. Suctoria.

⁷⁶Incl. *Diplophrys*, *Sorodiplophrys*, Thraustochytridiales, Labyrinthuloideales.

⁷⁷Incl. Placidiales (incl. *Wobbia*), Borokales, Anoecales (incl. *Cafeteria*, *Caecitellus*), Bicoecales, *Commation* sed.m., *Metromonas* sed.m., *Discocelis* sed.m., "MAST" groups.

⁷⁸Incl. Proteromonadida.

⁷⁹Sed.poss. juxta Pedinellales.

⁸⁰Incl. Hyphochitriomycetales, *Developayella*, *Pirsonia*.

⁸¹= Khakista, incl. *Bolidomonas* stat.m.

⁸²= Limnista, incl. *Synchroma* stat.m., Eustigmatales stat.m., Picophagea stat.m. (*Picophagus*, *Chlamydomyxa*), *Oikomonas*, *Paraphysomonas*.

⁸³Incl. Pedinellales, Rhizochromulinales, Dictyochales, Pelagomonadales, Sarcinochrysidales, Pinguiochrysidales stat.m.

5(135). *Phaeophyceae* s.l. ⁸⁴

Superphylum *Chloronta*

Phylum 29. HAPTOPHYTA

Classis 1(136). *Prymnesiophyceae* ⁸⁵

Phylum 30. CENTROHELIDA

Classis 1(137). *Holosea* sed.m. ⁸⁶

2(138). *Centrohelea*

Phylum 31. CRYPTISTA

Classis 1(139). *Cryptomonadea* ⁸⁷

2(140). *Katablepharidea* sed.m. ⁸⁸

3(141). *Telonemia*

4(142). “*Picobiliphyta*”

Phylum 32. GLAUCOPHYTA

Classis 1(143). *Glaucophyceae*

Phylum 33. RHODOPHYTA

Classis 1(144). *Cyanidiophyceae* ⁸⁹

2(145). *Rhodellophyceae* ⁹⁰

3(146). *Compsogonophyceae*

4(147). *Bangiophyceae*

5(148). *Florideophyceae*

Phylum 34. CHLOROPHYTA*

Classis 1(149). *Prasinophyceae** ⁹¹

2(150). *Ulvophyceae*

3(151). *Chlorophyceae*

⁸⁴= Fucistia, incl. Chrysomeridales stat.m., Xanthophyceae stat.m., *Schizocladia*, Phaeothamniales.

⁸⁵Incl. Pavlovophyceae.

⁸⁶Incl. (*Luffisphaera*, *Paraluffisphaera*).

⁸⁷Incl. *Goniomonas*.

⁸⁸Incl. *Katablepharis*, *Leucocryptos*, *Platytilomonas*, *Hatena*.

⁸⁹Incl. *Cyanidium*, *Galdieria*, *Glaucosphaera*.

⁹⁰Incl. Stylonematophyceae, Porphyridiophyceae, Rhodellophyceae.

⁹¹Incl. Micromonadales.

- 4(152). *Trebouxiophyceae*⁹²
5(153). *Chlorodendrophyceae*
6(154). *Charophyceae**⁹³

Regnum Vegetabilia

Phylum 35. BRYOPHYTA*

Subphylum *Hepaticae*

- Classis 1(155). *Haplomitriopsida*⁹⁴
2(156). *Marchantiopsida*⁹⁵
3(157). *Jungermanniopsida*

Subphylum *Bryophytina*

- Classis 4(158). *Takakiopsida*
5(159). *Sphagnopsida*⁹⁶
6(160). *Andreaeopsida*⁹⁷
7(161). *Polytrichopsida**⁹⁸
8(162). *Bryopsida*⁹⁹

Subphylum *Anthocerotophytina*

- Classis 9(163). *Anthocerotopsida*

Phylum 36. PTERIDOPHYTA*

Subphylum *Lycopodiophytina*

- Classis 1(164). *Lycopodiopsida*¹⁰⁰

Subphylum *Pteridophytina**

- Classis 2(165). *Psilotopsida*
3(166). *Ophioglossopsida*
4(167). *Equisetopsida*

⁹²Incl. *Helicosporidium*.

⁹³Incl. *Mesostigma*, Conjugatophyceae.

⁹⁴Incl. Treubiaceae.

⁹⁵Incl. Blasiales, Sphaerocarpaceae, Monocleales.

⁹⁶Incl. *Ambuchanania*.

⁹⁷Incl. *Andreaebryum*.

⁹⁸Incl. Oedipodiales, Tetrarhizales, Polytrichales, Buxbaumiales.

⁹⁹Incl. Diphysciales.

¹⁰⁰Incl. Isoëtropsida stat.m.

5(168). *Marattiopsida*

6(169). *Pteridopsida*

Phylum 37. SPERMATOPHYTA

Classis 1(170). *Cycadopsida*

2(171). *Ginkgoopsida*

3(172). *Gnetopsida*

4(173). *Pinopsida*¹⁰¹

5(174). *Taxopsida*

6(175). *Angiospermae*

Regnum Animalia

Subregnum *Parazoa**¹⁰²

Phylum 38. PLACOZOA

Classis 1(176). *Placozoa*

Phylum 39. PORIFERA*

Subphylum *Silicea*

Classis 1(177). *Hexactinellea*

2(178). *Demospongia* s.str.

Subphylum *Calcarea*

Classis 3(179). *Calcarea*

Subphylum *Homosclerea*

Classis 4(180). *Homoscleromorpha*

Subregnum *Eumetazoa*

Infraregnum *Anephrozoa**

Phylum 40. CTENOPHORA

Classis 1(181). *Ctenophora*

¹⁰¹Incl. Pinales.

¹⁰²Incl. *Salinella* i.s. et dubitativa.

Phylum 41. CNIDARIA

- Classis 1(182). *Anthozoa*
- 2(183). *Staurozoa*¹⁰³
- 3(184). *Medusozoa*¹⁰⁴
- 4(185). *Polypodiozoa*¹⁰⁵

Phylum 42. MYXOZOA

- Classis 1(186). *Malacosporea*¹⁰⁶
- 2(187). *Myxosporea*¹⁰⁷

Phylum 43. ACOELOMORPHA

- Classis 1(188). *Acoela*
- 2(189). *Nemertodermatida*

Infraregnum Deuterostomia

Phylum 44. XENOTURBELLIDA

- Classis 1(190). *Xenoturbellida*

Phylum 45. ECHINODERMATA

- Classis 1(191). *Crinoidea*
- 2(192). *Ophiuroidea*
- 3(193). *Asteroidea*¹⁰⁸
- 4(194). *Echinoidea*
- 5(195). *Holothurioidea*

Phylum 46. HEMICHORDATA¹⁰⁹

- Classis 1(196). *Enteropneusta*
- 2(197). *Pterobranchia*

¹⁰³ = Stauromedusae.

¹⁰⁴ Incl. Cubozoa, Scyphozoa, Hydrozoa.

¹⁰⁵ = *Polypodium*.

¹⁰⁶ = *Tetracapsula*, *Buddenbrockia*.

¹⁰⁷ = Actinomyxidia.

¹⁰⁸ Incl. *Xyloplax*.

¹⁰⁹ Incl. *Planctosphaera* i.s.

Phylum 47. CHORDATA

Subphylum *Cephalochordata*

Classis 1(198). *Cephalochordata*

Subphylum *Vertebrata*

Classis 2(199). *Cyclostomata* stat.m.

3(200). *Chondrichthyes*

4(201). *Actinopterygii*

5(202). *Dipnoi*¹¹⁰

6(203). *Amphibia*

7(204). *Reptilia**

8(205). *Aves*

9(206). *Mammalia*

Subphylum *Tunicata*

Classis 10(207). *Ascidacea*¹¹¹

Infraregnum Protostomia

Superphylum *Chaetognatha*

Phylum 48. CHAETOGNATHA sed.m.

Classis 1(208). *Chaetognatha*

Superphylum *Spiralia*

Phylum 49. GNATHIFERA

Classis 1(209). *Gastrotricha* sed.m.¹¹²

2(210). *Gnathostomulida*¹¹³

3(211). *Micrognathozoa*¹¹⁴

4(212). *Rotatoria*¹¹⁵

5(213). *Cycliophora* sed.m.¹¹⁶

6(214). *Entoprocta* stat.m.

¹¹⁰Incl. *Latimeria* sed.m.

¹¹¹Incl. Thaliacea, Larvacea stat.m.

¹¹²Sed.poss. inter Cycloneuralia.

¹¹³Incl. Filospemoidea, Bursovaginoidea.

¹¹⁴= *Limnognathia*.

¹¹⁵Incl. Hemirotifera stat.m. (*Seison*, Acanthocephala et Bdelloidea), Monogononta.

¹¹⁶= *Symbion*.

Phylum 50. PLATYHELMINTHES

- Classis 1(215). *Catenulida*
- 2(216). *Rhabditophora**
- 3(217). *Neodermata*¹¹⁷

Phylum 51. DICYEMIDA sed.m.

- Classis 1(218). *Rhombozoa*

Phylum 52. NEMERTINI

- Classis 1(219). *Nemertini*¹¹⁸

Phylum 53. MOLLUSCA

- Classis 1(220). *Neomeniomorpha*
- 2(221). *Caudofoveata*
- 3(222). *Polyplacophora*
- 4(223). *Monoplacophora*
- 5(224). *Bivalvia*
- 6(225). *Gastropoda*
- 7(226). *Scaphopoda*
- 8(227). *Cephalopoda*

Phylum 54. BRACHIOPODA

- Classis 1(228). *Phoronata* stat.m.
- 2(229). *Inarticulata*¹¹⁹
- 3(230). *Rhynchonellata*

Phylum 55. ECTOPROCTA stat.m.

- Classis 1(231). *Bryozoa*¹²⁰

Phylum 56. ANNELIDA

- Classis 1(232). *Sipunculida* stat.m.¹²¹
- 2(233). *Polychaeta*¹²²

¹¹⁷Incl. Monogenea, Trematoda, Cestoda.

¹¹⁸Incl. *Arhynchonemertes*.

¹¹⁹Incl. Craniata, Lingulata.

¹²⁰Incl. Phylactolaemata, Stenolaemata, Gymnolaemata.

¹²¹Incl. Sipunculoidea, Phascolosomatidea.

¹²²Incl. *Lobatocerebrum*, *Jennaria*, Aelosomata, Clitellata, Myzostomida, Echiura, Siboginida (= Pogonophora et Vestimentifera).

Phylum 57. ORTHONECTA sed.m.

Classis 1(234). *Orthonectida*

Superphylum *Ecdysozoa*

Phylum 58. CYCLONEURALIA*

Subphylum *Nematoidea*

Classis 1(235). *Nematoda*

2(236). *Nematomorpha*

Subphylum *Scalidomorpha*

Classis 3(237). *Priapulida*

4(238). *Kinorhyncha*

5(239). *Loricifera*

Phylum 59. TARDIGRADA

Classis 1(240). *Tardigrada*

Phylum 60. ARTHROPODA

Subphylum *Onychophora*

Classis 1(241). *Onychophora*

Subphylum *Cheliceromorpha*

Classis 2(242). *Chelicerata*¹²³

3(243). *Pantopoda*

Subphylum *Myriapoda*

Classis 4(244). *Chilopoda*

5(245). *Progoneata* stat.m.¹²⁴

Subphylum *Pancrustacea*

Classis 6(246). *Ichthyostraca*¹²⁵

7(247). *Ostracoda* stat.m.

8(248). *Maxillopoda*¹²⁶

9(249). *Malacostraca*¹²⁷

¹²³Incl. Xiphosura.

¹²⁴Incl. Simphyla, Dignatha (Pauropoda et Diplopoda).

¹²⁵Incl. Branchiura, Pentastomida.

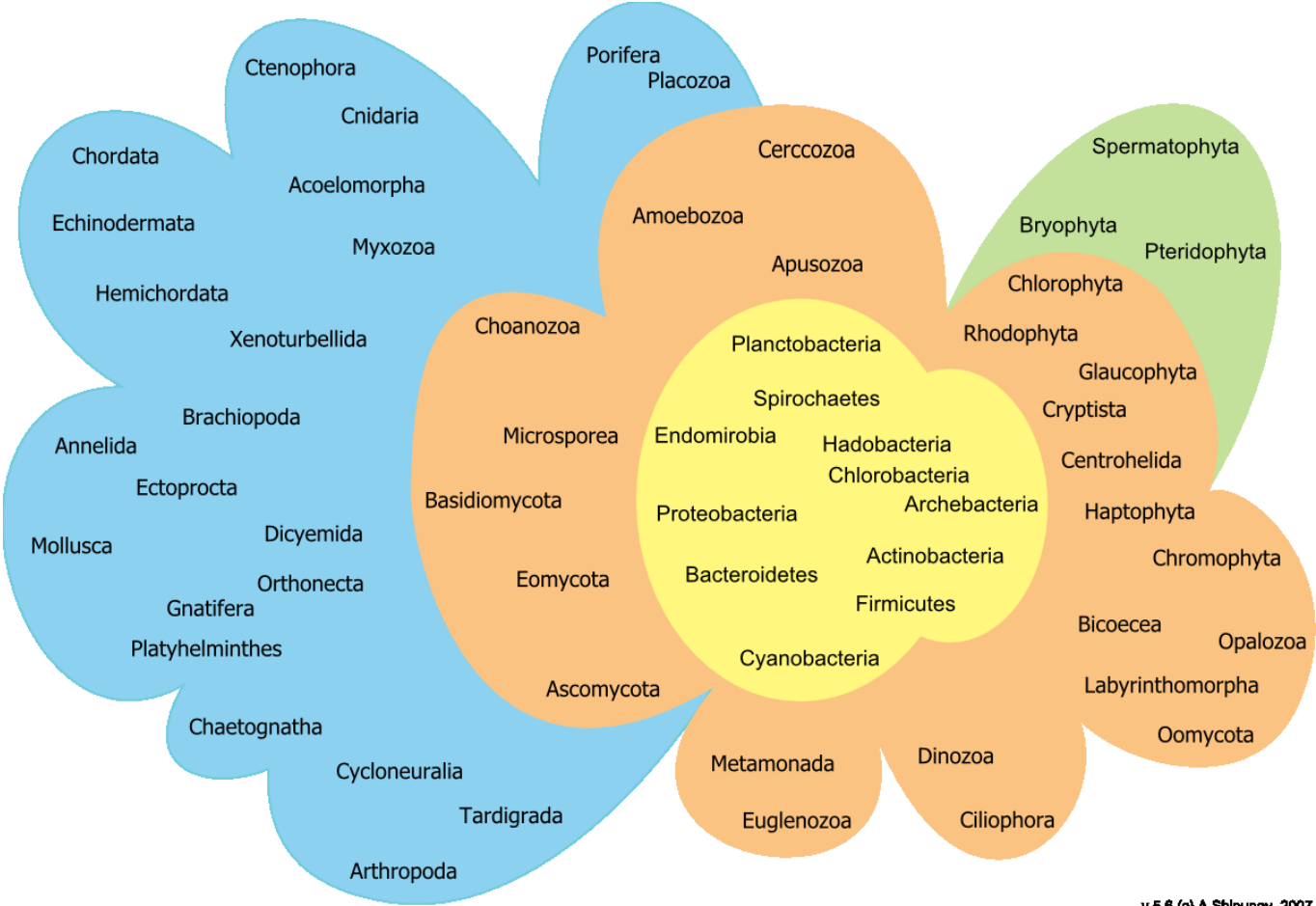
¹²⁶Incl. Tantulocarida, Mystacorarida, Copepoda, Thecostraca stat.m.

¹²⁷Incl. Leptostraca.

- 10(250). *Remipedia*
11(251). *Cephalocarida*
12(252). *Branchiopoda*
13(253). *Hexapoda*¹²⁸

¹²⁸Incl. Collembola, Protura, Diplura.

Schematic view of the classification



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