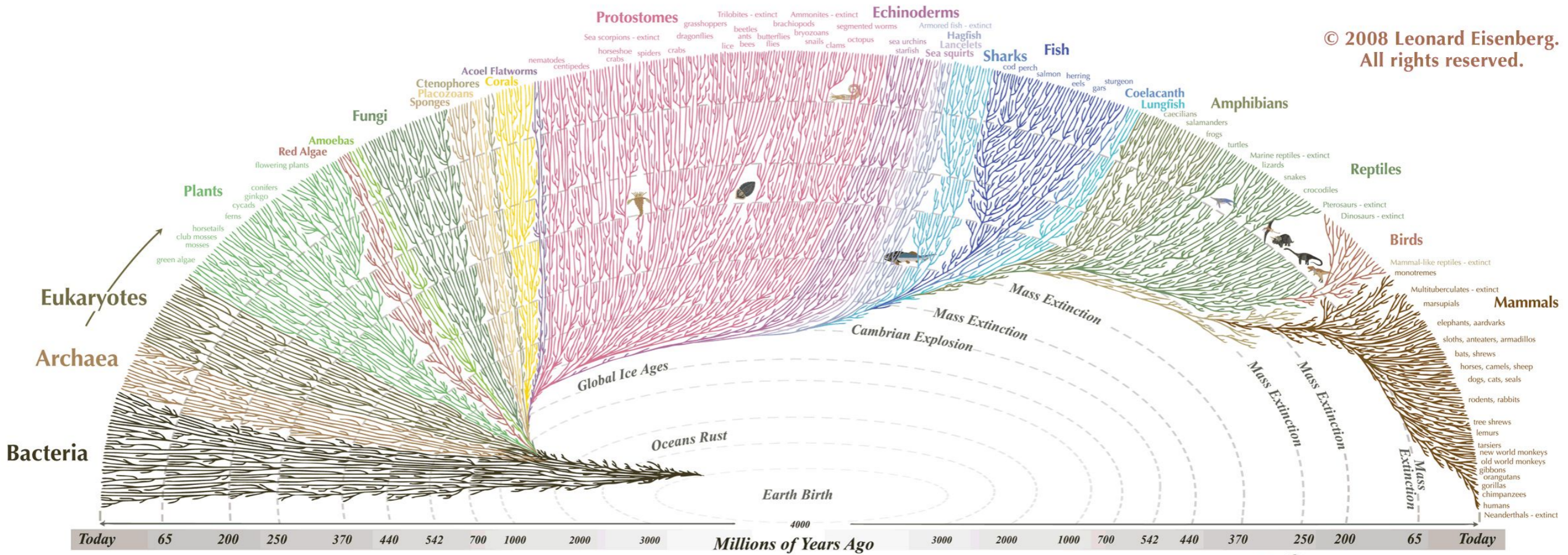



Evolution of microorganisms (and viruses)

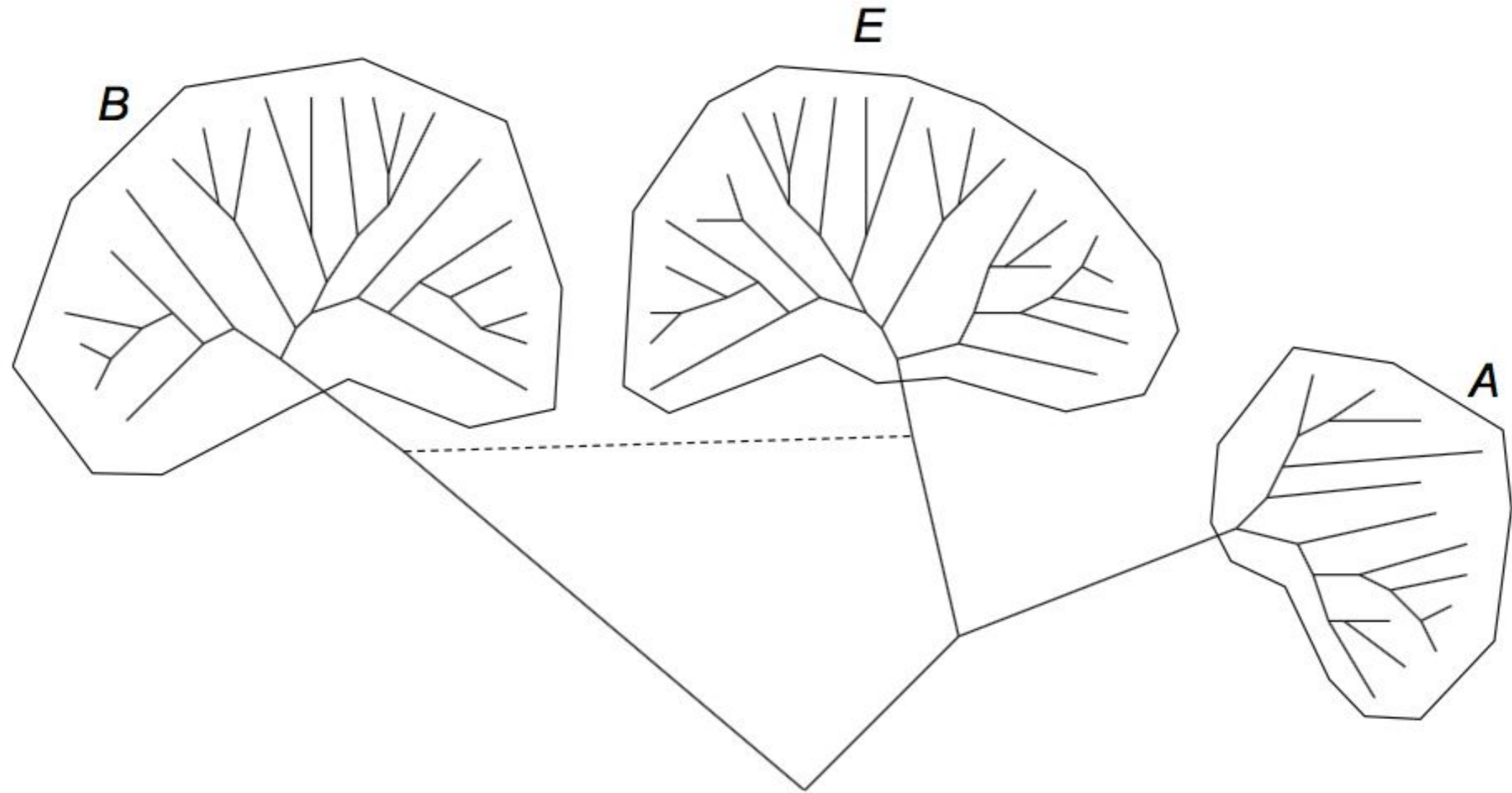
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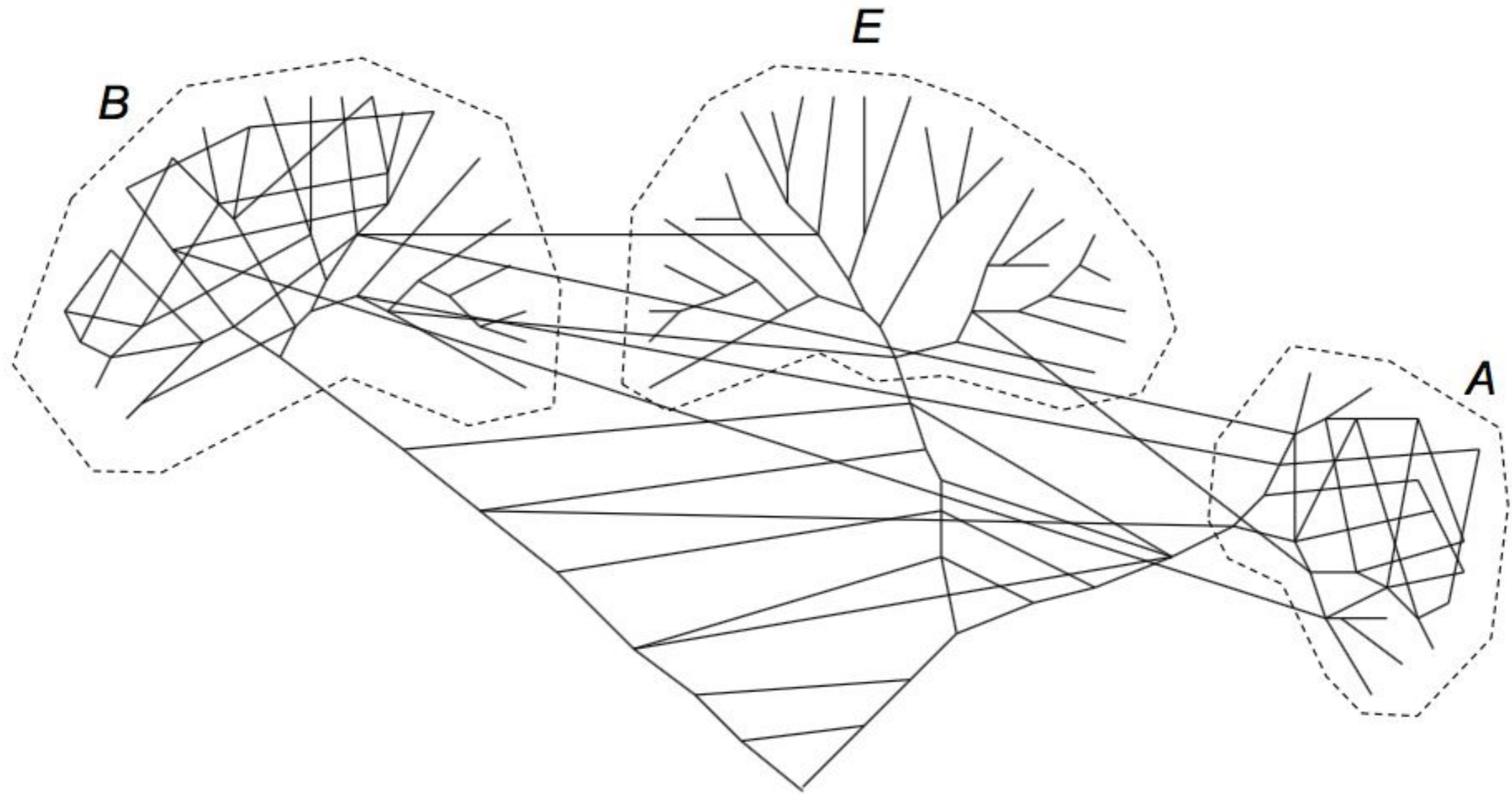
All the major and many of the minor living branches of life are shown on this diagram, but only a few of those that have gone extinct are shown. Example: Dinosaurs - extinct 

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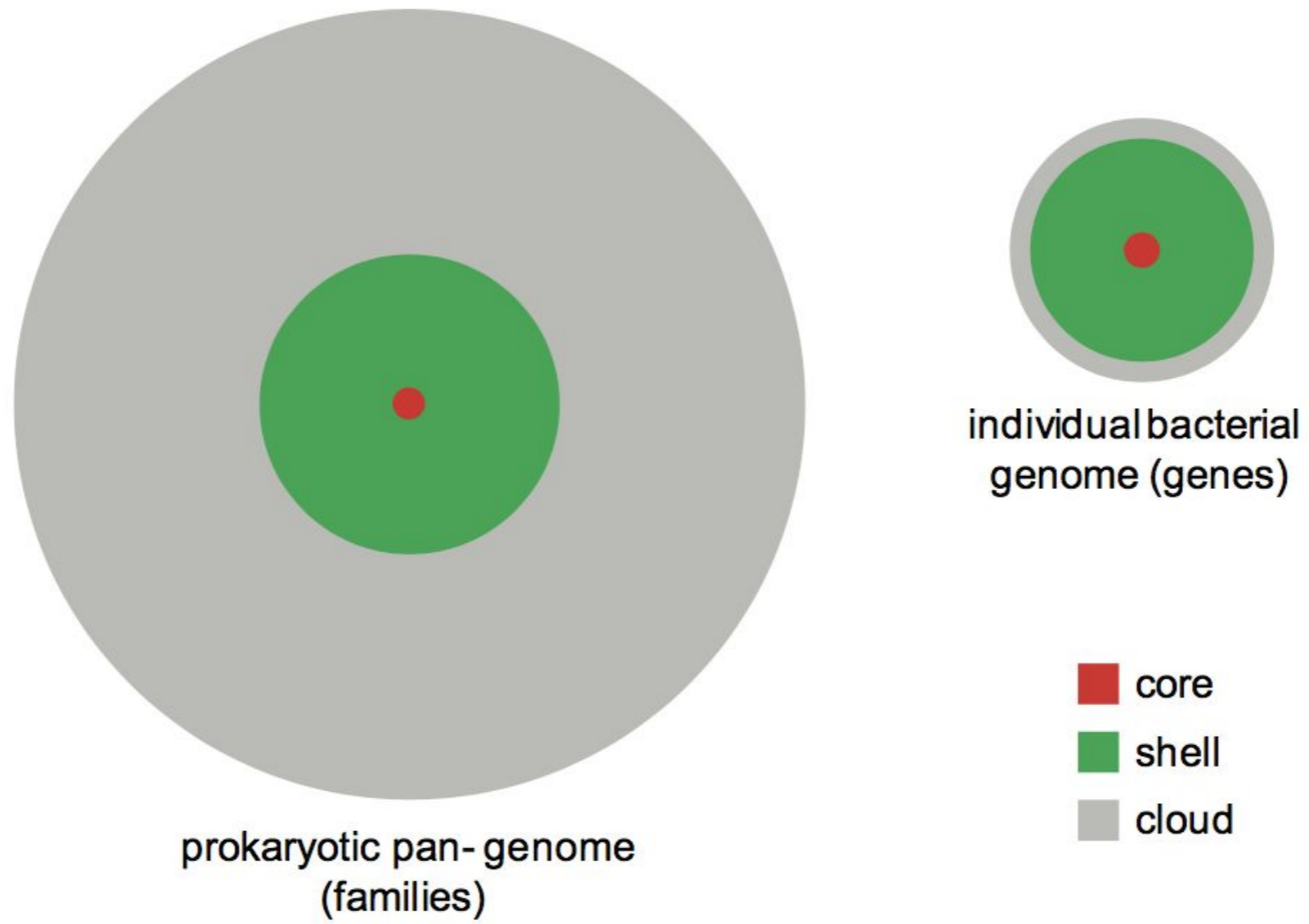
“On the Origin of Species”



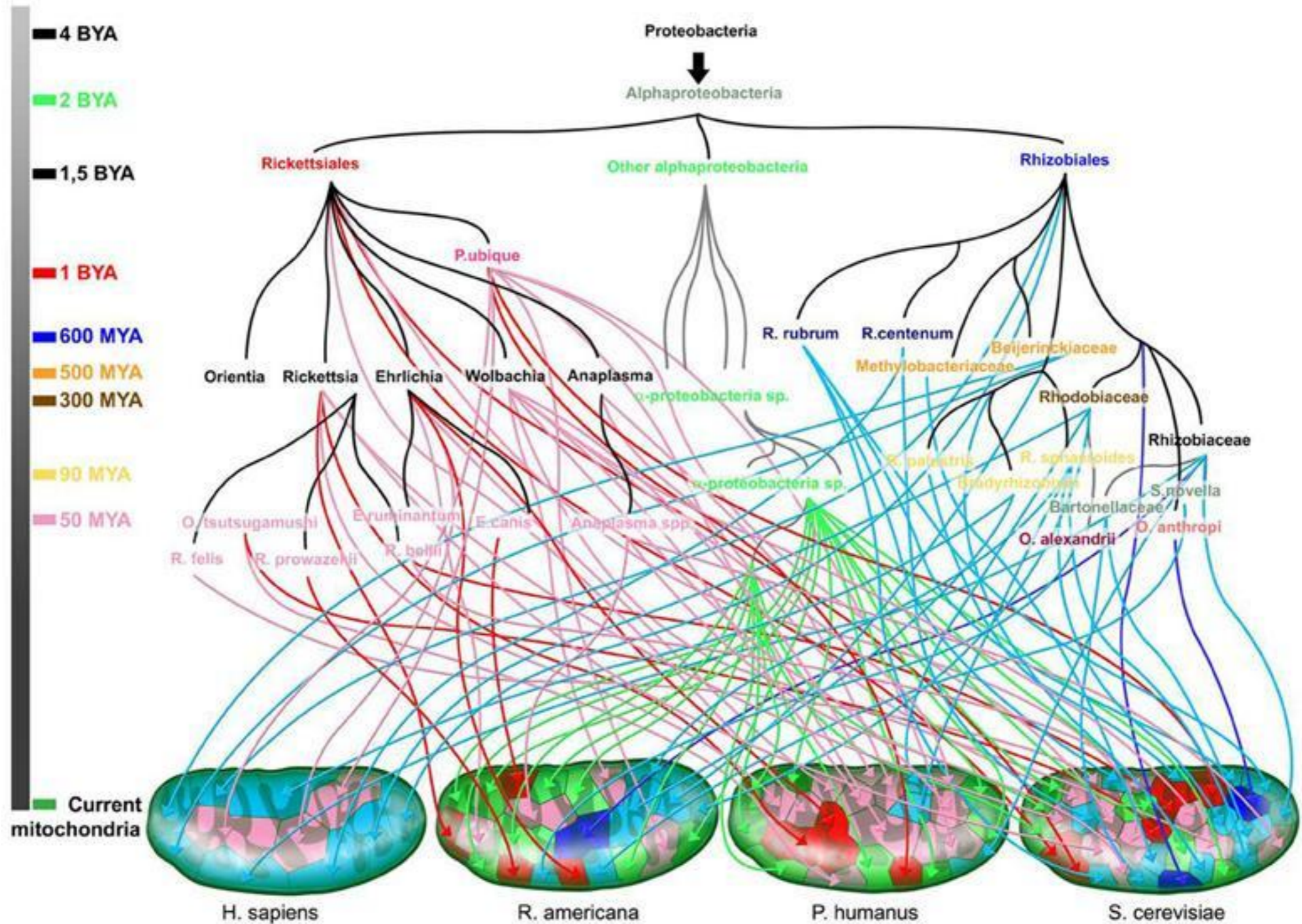
Flow of genetic material



Prokaryotic species?



The Rhizome of Life



Systema naturae

CAROLI LINNÆI REGNUM ANIMALE

I. QUADRUPEDIA. II. AVES. III. AMPHIBIA. IV. PISCES. V. INSECTA. VI. VERMES.

Main classification table with columns for Class (I-VI) and rows for Order (e.g., Homo, Simia, Ursus, etc.) and Genus. Includes descriptive text for each class and detailed lists of genera and species for each order.

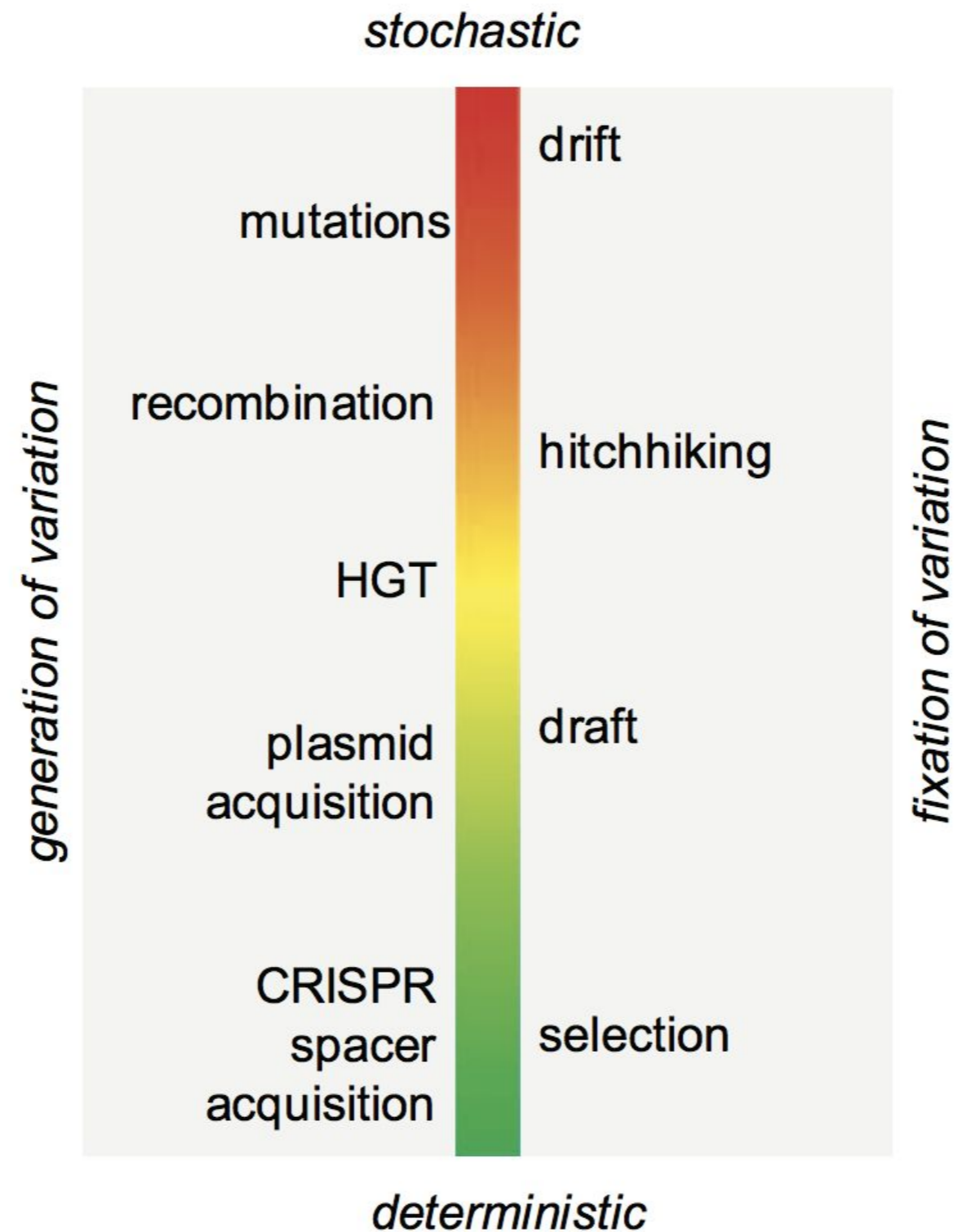
III. AMPHIBIA. Corpus nudum, vel squamosum. Dentes molares nulli: reliqui semper. Fimæ nulæ.

PARADOXA

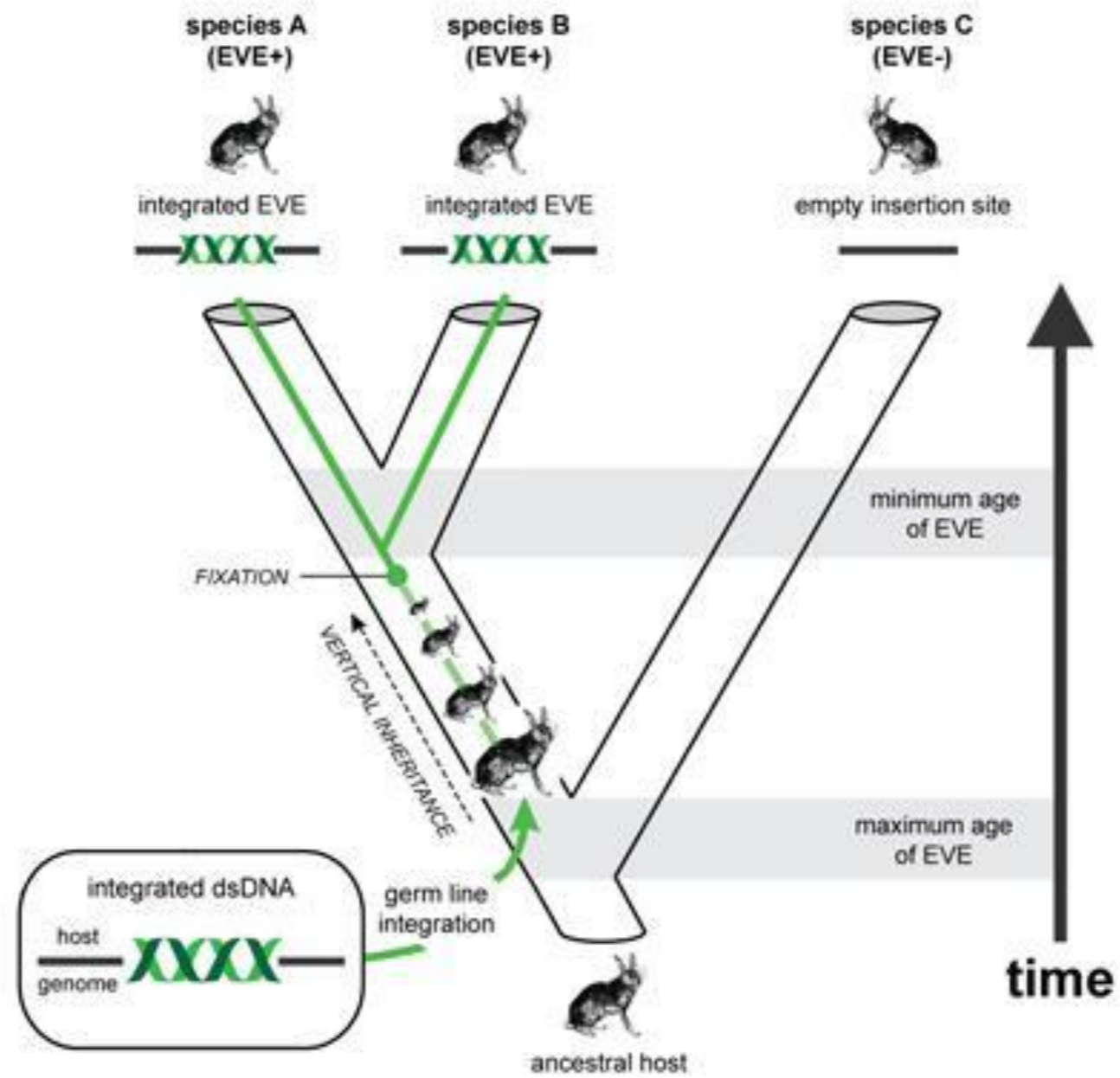
HYDRA corpore anguino, pedibus duobus, collis septem, & totidem capitibus, alarum expertis, asseritur Hammbergi, similitudinem referens Hydri Apocalypsicæ & S. JOHANNIS CAP. XII. & XIII. descriptis. Esque tantquam veri animalis speciem plurimum præbuit, sed fallit. Natura sibi semper similibus plura capitis in uno corpore nunquam produxit ac naturaliter. Frustrum æ ærificum, cum ipse vidimus, dentes Ferrino-mustellini, ab Amphibiis dentibus diversi, sic collime detexerunt.

Continuation of classification table for orders within Classes IV, V, and VI. Includes detailed lists of genera and species for various insect and vermiform orders.

The continuum of evolutionary processes



Viruses



The origin of viruses

Progressive: mobile genetic elements become autonomous

Retrotransposons

Regressive: derived from a more complex progenitor

Complex viruses

Mitochondria

Virus First: predate cells

RNA World

Ribozymes

None of the above

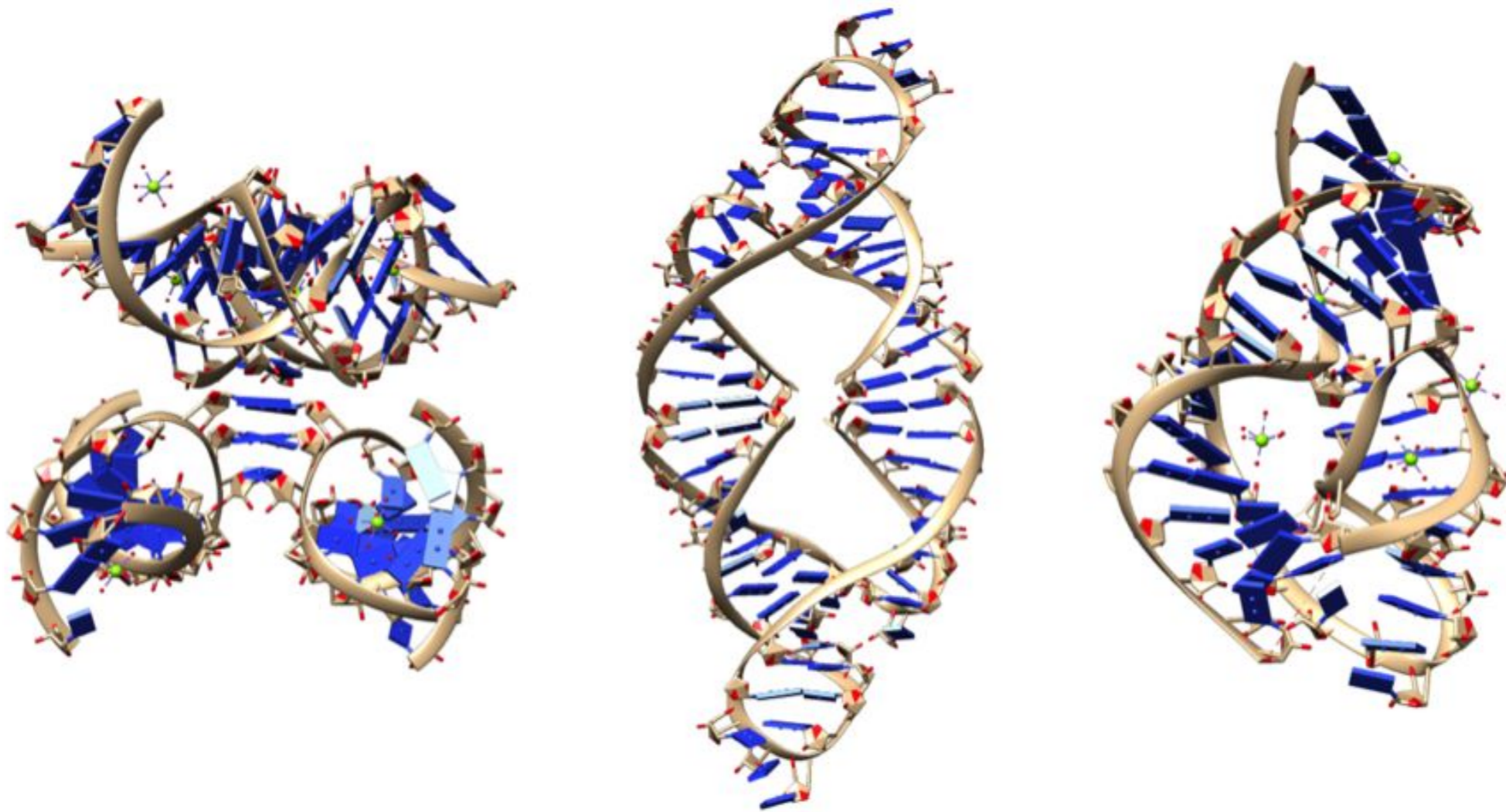
All of the above

Trilobite



<http://www.guardian.co.uk/books/2012/mar/09/mullan-ten-best-fossils-literature>

Ribozymes



Предки человека заимствовали полезные гены у вирусов

22.10.2008 • АЛЕКСАНДР МАРКОВ • ГЕНЕТИКА, ЭВОЛЮЦИЯ • 10 КОММЕНТАРИЕВ

syncytin 1, syncytin 2, EnvPb1

http://elementy.ru/novosti_nauki/430886/Predki_cheloveka_zaimstvovali_poleznye_geny_u_virusov