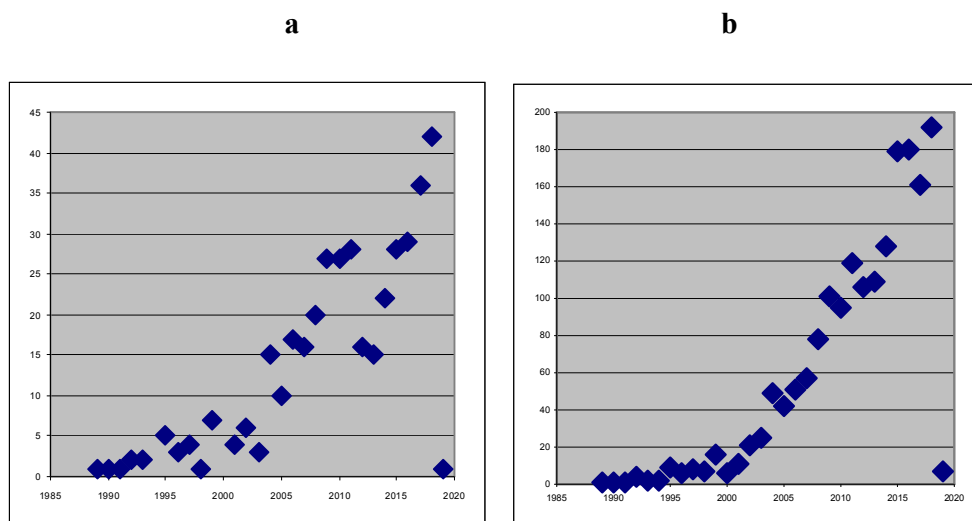
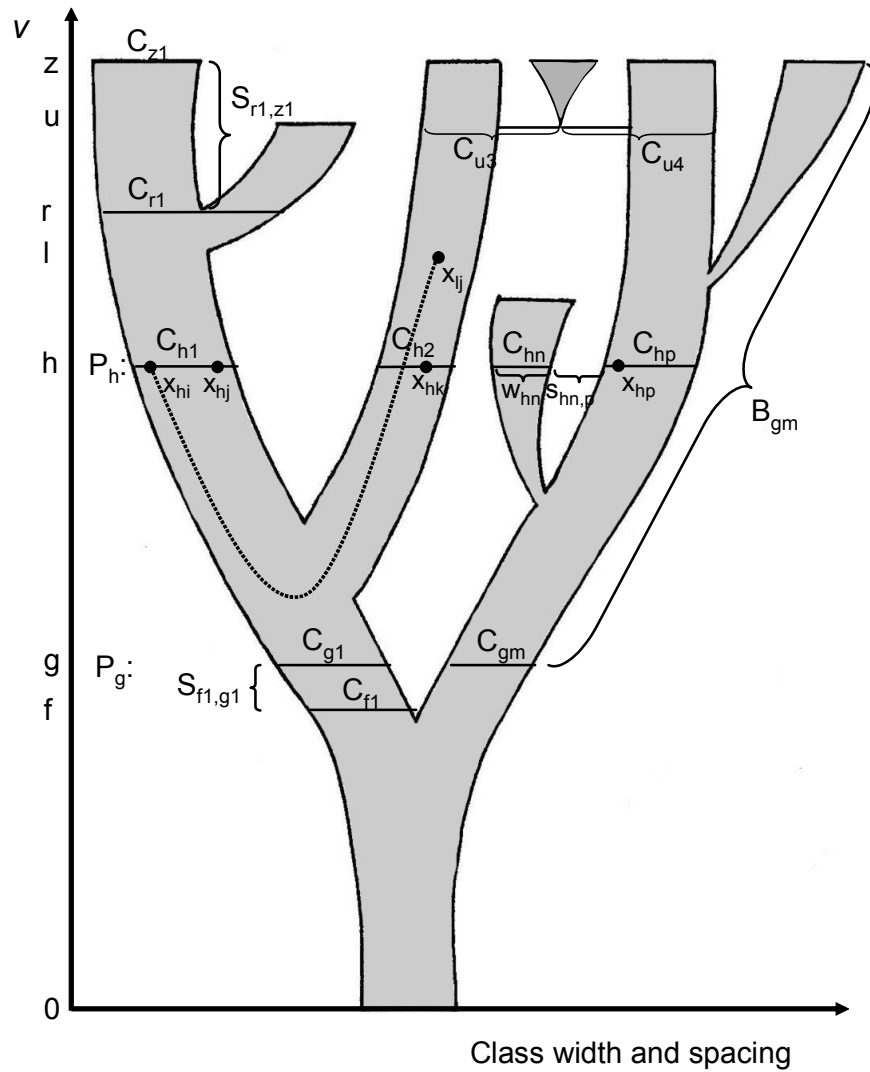


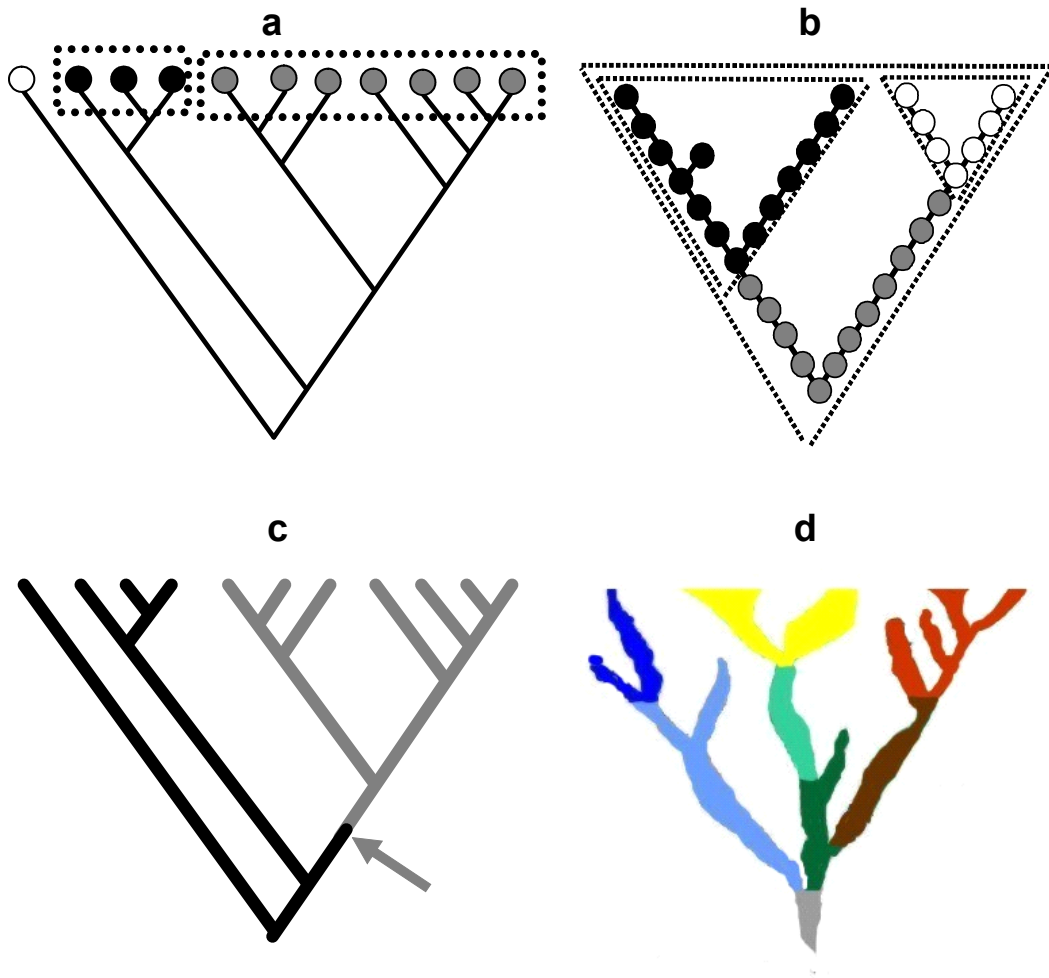
**The Coral of Life.** Published in: **Evolutionary Biology.** Author: J. Podani, Department of Plant Systematics, Ecology and Theoretical Biology, Institute of Biology, Eötvös University, Budapest, Hungary. E-mail: podani@ludens.elte.hu



**Supplementary Fig. S1** The number of occurrences of the expression “Tree of Life” in biological papers covered by the Web of Science since 1985. **a** The term appeared in the title in 389 records according to the search for TI=“tree of life” and (TS=phylogen\* or TS=evolu\* or TS=cladis\* or TS= systemat\* or TS=classifi\* or TS=genet\* or TS=bacter\* or TS=archaea or TS=taxon\* or SU=Life Sciences Biomedicine). **b** “Tree of Life” appeared in the subject in 1,774 records according to the search for TS=“tree of life” and (TS=phylogen\* or TS=evolu\* or TS=cladis\* or TS= systemat\* or TS=classifi\* or TS=genet\* or TS=bacter\* or TS=archaea or TS=taxon\* or SU=Life Sciences Biomedicine). The site was accessed in January 22, 2019, hence the lower values for this year.



**Supplementary Fig. S2** Fan coral. The condition “Furthermore, if any two points lie in different classes of a given  $P_g$ , then there does not exist a path connecting these two points through any partition  $P_v$  for all  $v > g$ ” is relaxed from the definition of BSD as given in Podani (2017, Fig. 2). Here, classes  $C_{u3}$  and  $C_{u4}$  at time  $u$  form a hybrid class at the next point of time  $u+1$ , which develops into a new segment. For this reason,  $x_{hk}$  and  $x_{hp}$  can be connected both “upwards” and “downwards”. Vertical axis: time, P: partition, C: equivalence class, B: branch, S: segment, x: point (a species, a population or an individual at a given date, for example).



**Supplementary Fig. S3** Delineation of monophyletic groups (clades) by dotted lines in SG trees or cladograms **(a)** and AD trees **(b)**. Definition of an apomorphy-based clade using a “phylogenetic tree”, which is in fact a coral. Arrow indicates the appearance of the apomorphic character **(c)**. In a coral model, every branch starting with a new color is monophyletic, e.g., the red branch or the red+brown branch **(d)**.

**Supplementary Fig. S4.** High resolution poster variant of Figure 3 (PDF file).