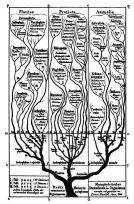
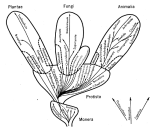
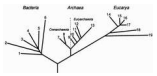
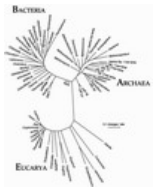
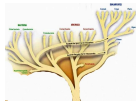
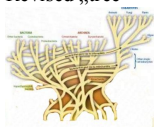
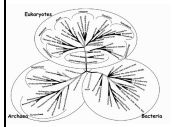
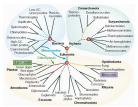
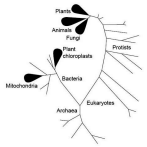
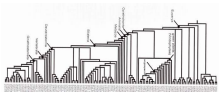
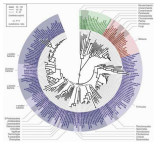
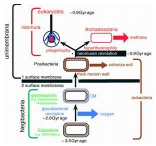
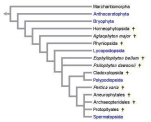
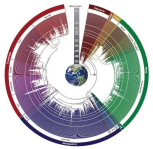
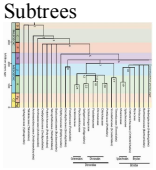
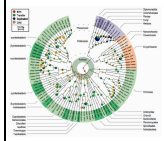
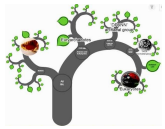
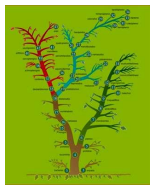
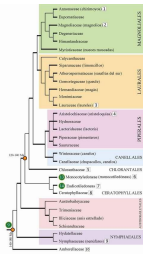
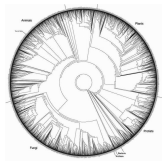
The Coral of Life. Published in: **Evolutionary Biology.** Author: J. Podani, Department of Plant Systematics, Ecology and Theoretical Biology, Institute of Biology, Eötvös University, Budapest, Hungary. E-mail: podani@ludens.elte.hu

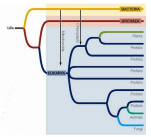
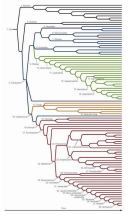
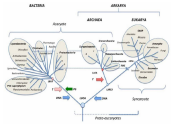
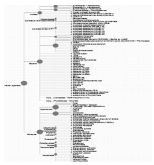
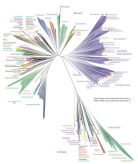
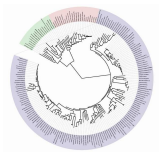
Supplementary Table S2. Some important features of published ToL diagrams, to illustrate diversity of underlying ideas and concepts. Except for Haeckel's "Stammbaum" (first row) and Whittaker's five-kingdom proposal (second row), which are often referred to as ToLs by other authors, the conditions for inclusion in the table were that: 1) the authors considered them explicitly as ToL, and 2) the diagram covered the entire cellular life known at that time, at least at the level of major domains. P-prokaryote, E-eukaryote, N/A-Not Applicable criterion.

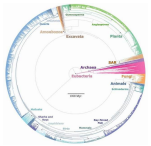
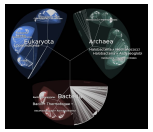
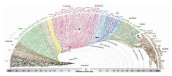
Reference	Icon – illustrating overall shape	Graph theoretical tree (Yes/No)	Timescale None/ linear/ logarithmic	Evolutionary distance None/molecular	P/E ratio of node taxa	Evolutionary events or other info super-imposed	Underlying classification shown	Taxonomic status of nodes or branches	Divergence vs ancestry	Extinct groups (Yes/No)	Diagram type after Podani (2013, 2017)
Haeckel (1866)		No	None	None	N/A	None	kingdoms, other Linnaean ranks	N/A	Div.	No	Synchronous oak
Whittaker (1969)		No	None	None	N/A	Nutrition modes added, embedded phylogenies	5 kingdoms, many smaller groups inside each	N/A	Anc. for 5 groups	No	Cactus
Woese et al. (1990)		Yes - rooted	None	Molecular	13/6	None	3 domains	Linnaean taxa at various ranks	Div.	No	Synchronous tree
Pace (1997)		Yes - rooted	None	Molecular	48/19	None	3 domains	Genera plus organelles, numbered traits	Div.	No	Synchronous tree

Reference	Icon – illustrating overall shape	Graph theoretical tree (Yes/No)	Timescale None/ linear/ logarithmic	Evolutionary distance None/molecular	P/E ratio of node taxa	Evolutionary events or other info super-imposed	Underlying classification shown	Taxonomic status of nodes or branches	Divergence vs ancestry	Extinct groups (Yes/No)	Diagram type after Podani (2013, 2017)
Doolittle (1999)	Consensus ToL 	No	None	None	N/A	LUCA, 2 types of endo-symbiosis	3 domains and some clades within each	N/A	Both	No	Coral
	Revised „tree” 										Anastomosing (fan) coral
Gribaldo & Philippe (2002)		Yes - rooted	None	None	15/10	None	3 domains	Various clades	Div.	No	Synchronous tree
Baldauf et al. (2004)		Yes - rooted	None	None	41/39	None	3 domains, major clades	various ranks from genera and up	Div.	No	Synchronous tree
Gogarten and Townsend (2005)		No	None	None	8/1	Some uncertainties shown	3 domains, some prokaryotic groups	Various groups	Both	No	Anastomosing coral
Delsuc et al. (2005)		Yes - unrooted	None	None	19/19	2 endo-symbioses	Nested cladistic: 3 – 8 - 38	Various clades	Div.	No	Synchronous tree
Benton (2005)		No	None	None	4/5	None	9 groups named, incl. mitoch. and plastids	Mostly unnamed terminals	Div.	No	Coral
Cracraft et al. in Eldredge (2005)		Yes - rooted	None	None	16/126	None	Cladistic, few large clades named	Various, mostly Linnaean taxa	Div.	No	Synchronous tree
Stearns and Hoekstra (2005, p. 419) after Offner (2001)		Yes - rooted	None, Dates mentioned are not to scale	None	12/13	Six major events noted	3 domains, total of 25 subgroups	Clades	Div.	No	Synchronous tree

Reference	Icon – illustrating overall shape	Graph theoretical tree (Yes/No)	Timescale None/ linear/ logarithmic	Evolutionary distance None/molecular	P/E ratio of node taxa	Evolutionary events or other info super-imposed	Underlying classification shown	Taxonomic status of nodes or branches	Divergence vs ancestry	Extinct groups (Yes/No)	Diagram type after Podani (2013, 2017)
Ciccarelli et al. (2006)		Yes - unrooted	None	Molecular	168/23	None	30 major clades	Species	Div.	No	Synchronous tree
Cavalier-Smith (2006)		Yes - rooted	None	None	4/1	Cell biology, physiology, ecology, time	4 P groups + E	Overlapping large groups	Anc. and 1 div.	No	Achronous tree
Lecointre and Le Guyader (2006)	Global 	Yes – unrooted (= basal tricho-tomy)	None	None	2/1	None	None	Domains	Div.	No	Synchronous tree
	Subtrees 	Yes - rooted	None	None	N/A	None	None	Various clades/taxa	Div.	No	Synchronous tree
Tree of Life (Maddison and Schulz 2007)	Global 	yes – unrooted (= basal tricho-tomy)	None	None	2/1	None	None	Domains	Div.	No	Synchronous tree
	Subtrees 	yes - rooted	None	None	N/A	None	None	Various clades/taxa	Div	Yes	Asynchronous tree
Hedges and Kumar (2009)	Global 	Yes – rooted	Logarithmic	None	102/1508	One plastid endosymb.	19 major clades	Families or “equivalents”	Div.	No	Synchronous tree
	Subtrees 	Yes rooted	Linear	None	N/A	None	Various clades/taxa	Various clades/taxa	Div.	No	Synchronous tree

Reference	Icon – illustrating overall shape	Graph theoretical tree (Yes/No)	Timescale None/ linear/ logarithmic	Evolutionary distance None/molecular	P/E ratio of node taxa	Evolutionary events or other info super-imposed	Underlying classification shown	Taxonomic status of nodes or branches	Divergence vs ancestry	Extinct groups (Yes/No)	Diagram type after Podani (2013, 2017)
David and Alm (2011)		Yes . rooted	Linear	None	90/11	4 types of genetic events	27 major clades	Species	Div.	No	Synchronous tree
Rosindell and Harmon (2012)		No, zoomable	None	None	N/A	Species richness and divergence time at each major node	Nested clades – Linnaean taxa	Down to species (as leaves)	Div.	Yes	Asynchronous oak
Vargas et Zardoya (2012)	 Cover	No	None	None	N/A	None	Nested clades – Linnaean taxa	Various taxa, 43 named	Div.	No	Synchronous oak
	 Subtrees	Yes	None, some dates added	None	N/A	None	Nested clades and/or Linnaean taxa	Various	Div.	No	Synchronous tree
Hillis et al. (p. 230 in Pietsch 2013)		Yes - rooted	None	None	53/2950	None	Few large groups with common names	Species	Div-	No	Synchronous tree

Reference	Icon – illustrating overall shape	Graph theoretical tree (Yes/No)	Timescale None/ linear/ logarithmic	Evolutionary distance None/molecular	P/E ratio of node taxa	Evolutionary events or other info super-imposed	Underlying classification shown	Taxonomic status of nodes or branches	Divergence vs ancestry	Extinct groups (Yes/No)	Diagram type after Podani (2013, 2017)
Hillis et al. (2014)		Yes - rooted	None	None	2/9	2 endo-symbioses, actual and estimated richness	Few large groups with common names,	6 “protists” as terminals, plus 5 others	Div.	No	Synchronous tree
		Yes - rooted	None	None	10/85	None	38 clades named	Various clades/taxa	Div.	No	Synchronous tree
Forterre (2015)		Yes - rooted	None	None	25/10	Endosym-bioses, major biochem. events, LUCA, LECA	Domains, major groups	Various clades	Div. – plus few hypo-thetical ancestors	No	Synchronous tree – hypothetical ancestors added
Hedges et al. (2015)		Yes, rooted	Logarithmic	None	0.3/99.7%	None	Many large clades at various taxonomic levels	Species	Div.	No	Synchronous tree
OpenTree of Life (Hinchliff et al. 2015)	 Subtrees too	Yes - rooted	None	None	59/37	None	Cladistic	Uncultured strains, environmental samples, various taxa	Div. Many polytomies	No	Synchronous tree
Hug et al. (2016)		Yes - unrooted	None	Molecular	106/5	None	Many major prokaryotic clades	Strains,genera, some higher taxa	Div	No	Synchronous tree
Letunic and Bork (2016)		Yes – optional rooting	None	Molecular	175/23	None	None	Species	Div	No	Synchronous tree

Reference	Icon – illustrating overall shape	Graph theoretical tree (Yes/No)	Timescale None/ linear/ logarithmic	Evolutionary distance None/molecular	P/E ratio of node taxa	Evolutionary events or other info super-imposed	Underlying classification shown	Taxonomic status of nodes or branches	Divergence vs ancestry	Extinct groups (Yes/No)	Diagram type after Podani (2013, 2017)
Scholl and Wiens (2016)		Yes - unrooted	Linear	None	82/2476	None	19 large clades named (arbitrary choice, text: Linnaean)	2558 families	Div.	No	Synchronous tree
DeVienne (2016)		Yes – unrooted zoomable	None	None	2/1	Links to info pages included	2 domains, some clades	Clades	Div.	No	Synchronous tree
		Yes - rooted	None	None	various	Links to info pages included	Cladistics-based with ranks	Clades – ranked taxa mixed	Div – many multi-furcations	Yes – a few	Asynchronous tree
Tree of Life Explorer (evogeneao undated)		No	Logarithmic	None	~1/6	Mass extinctions	Common names of taxa	Unlabeled	Both	Yes	Coral

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