

Output results of CLIME (CLustering by Inferred Models of Evolution)

Dataset:

Num of genes in input gene set: 2
Total number of genes: 20834
Prediction LLR threshold: 0

The CLIME PDF output two sections:

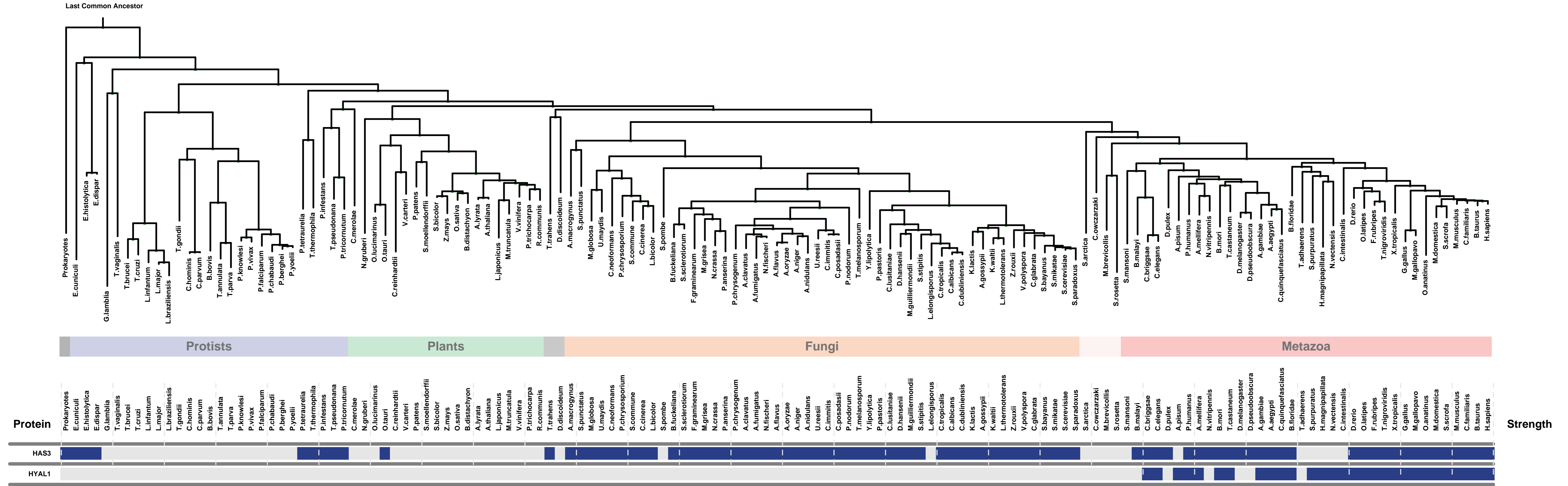
1) Overview of Evolutionarily Conserved Modules (ECMs)

- Top panel shows the predefined species tree.
- Bottom panel shows the partition of input genes into Evolutionary Conserved Modules (ECMs), ordered by ECM strength (shown at right), and separated by horizontal lines.
- Each row show one gene, where the phylogenetic profile indicates presence (blue) or absence (gray) of homologs in each species (column).
- Gene symbols are shown at left. Gray color indicates that the gene is a paralog to a higher scoring gene within the same ECM (based on BLASTP $E < 1e-3$).

2) Details of each ECM and its expansion ECM+

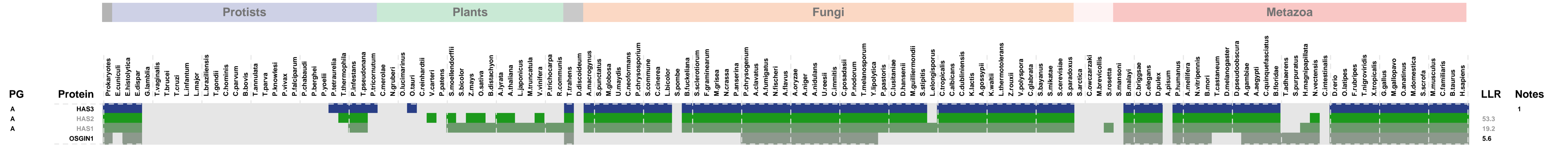
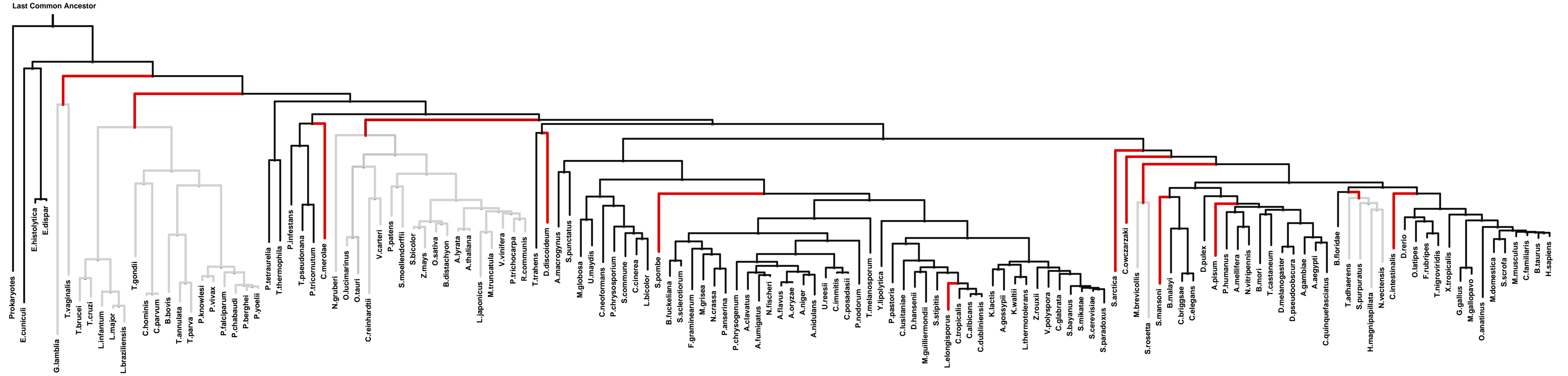
- Top panel shows the inferred evolutionary history on the predefined species tree. Branch color shows the gain event (blue) and loss events (red color, with brighter color indicating higher confidence in loss). Branches before the gain or after a loss are shown in gray.
- Bottom panel shows the input genes that are within the ECM (blue/white rows) as well as all genes in the expanded ECM+ (green/gray rows). The ECM+ includes genes likely to have arisen under the inferred model of evolution relative to a background model, and scored using a log likelihood ratio (LLR).
- PG indicates "paralog group" and are labeled alphabetically (i.e., A, B). The first gene within each paralog group is shown in black color. All other genes sharing sequence similarity (BLAST $E < 1e-3$) are assigned to the same PG label and displayed in gray.

Overview of Evolutionarily Conserved Modules (ECMs)



ECM 1, Gene set "hyaluronon cable", Page 1

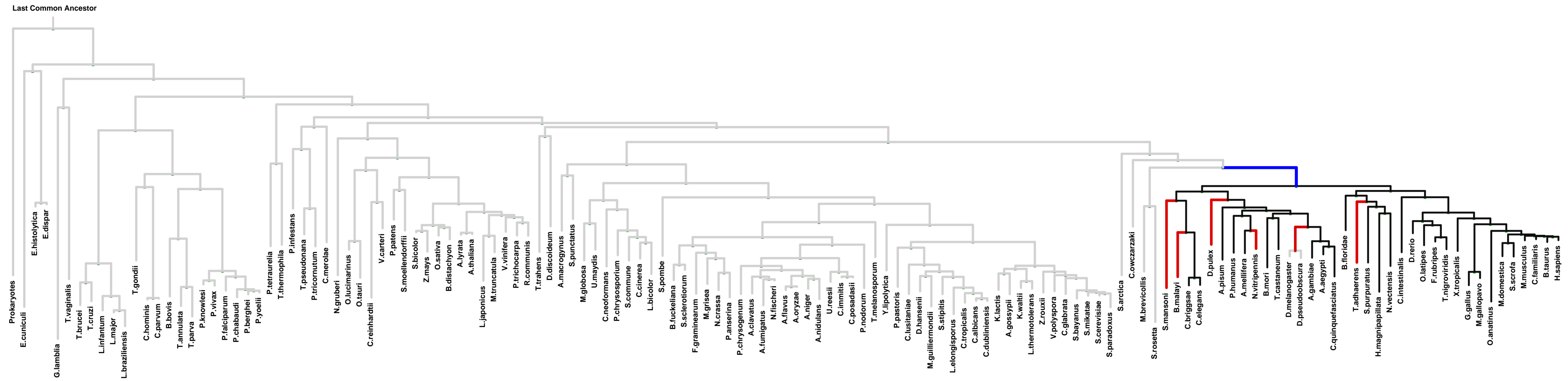
Num of ECM Genes: 1. Num of Predicted Genes: 3



1: hyaluronon cable

ECM 2, Gene set "hyaluronon cable", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 71

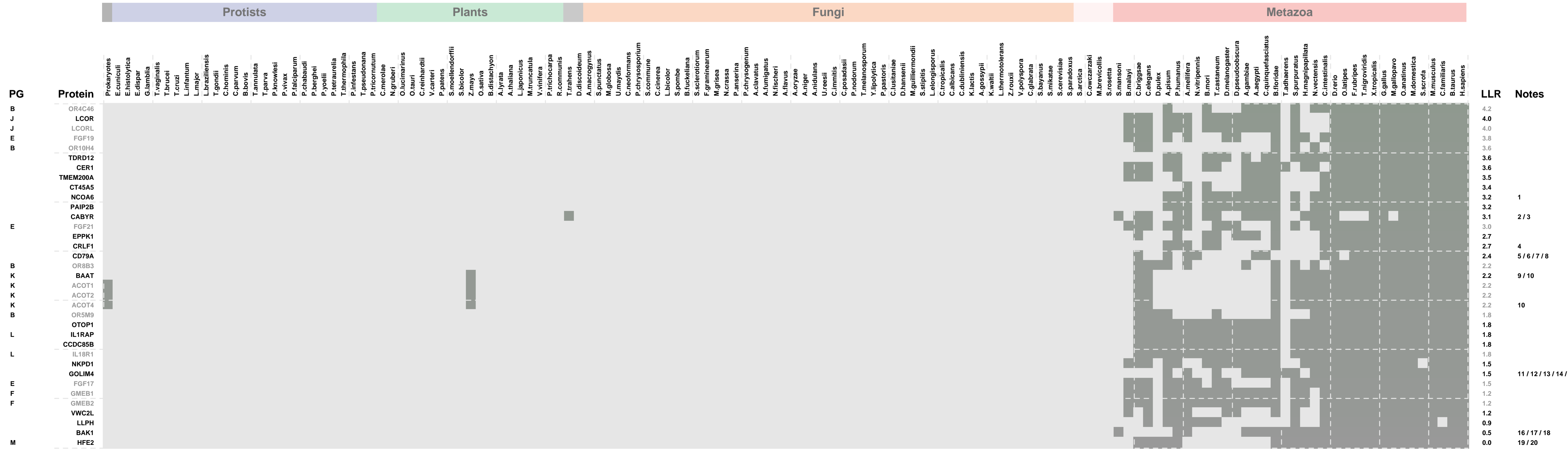
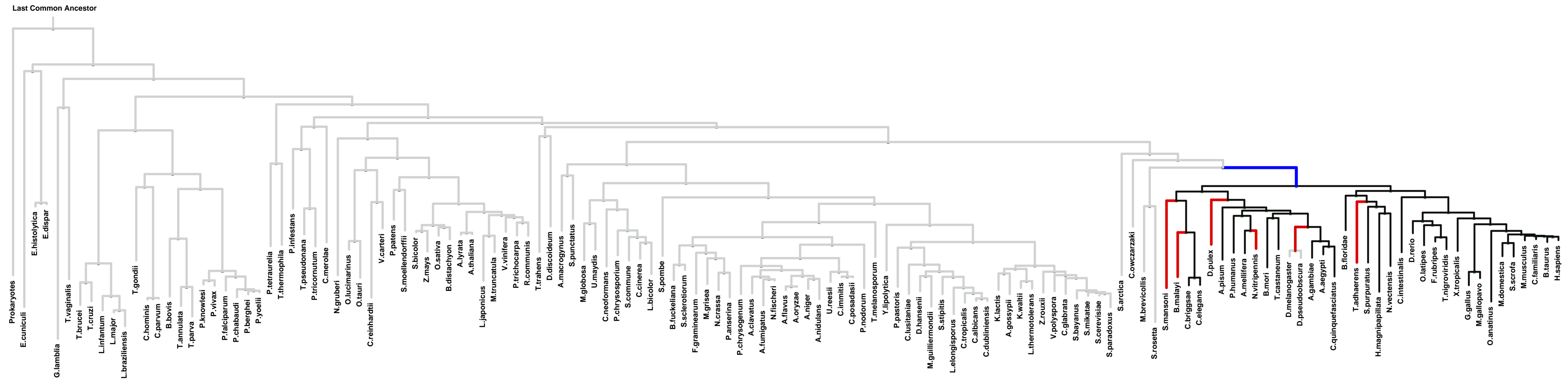


PG	Protein	Protists	Plants	Fungi	Metazoa	LLR	Notes
A	HYAL1						1 / 2 / 3 / 4
A	HYAL2					31.6	1 / 4 / 5 / 6 / 7 / 8 / 9 / 10 /
A	HYAL3					31.6	1 / 4
A	HYAL4					31.6	
A	SPAM1					31.6	12
B	OR6N2					17.6	
B	OR5C1					13.9	
C	TMEM178B					10.9	
C	LOC100507421					10.9	
D	ITM2C					10.0	4 / 13
D	ITM2A					10.0	
D	ITM2B					10.0	14 / 15 / 16
E	FGF18					9.9	
E	VPS37D					9.7	14 / 17
F	SP110					8.9	
B	OR6Y1					8.7	
B	OR4S2					8.6	
	NDNF					8.1	18
	QSER1					7.8	
	C1orf106					7.7	
G	PDGFA					7.5	11 / 19 / 20
	TCF23					7.1	
H	BNIP3L					6.7	21 / 22 / 23
	C17orf104					6.6	
H	BNIP3					6.6	22 / 23 / 24 / 25 / 26
	CCDC51					5.7	
	BCL9L					5.0	
	SGCB					4.7	27 / 28 / 29
I	TIMP3					4.5	18 / 30
I	TIMP4					4.5	31
I	TIMP2					4.5	30
	HSPB9					4.3	
	TP5311					4.3	
G	PDGFB					4.3	19 / 20 / 32
	IFNAR1					4.3	

1: cytoplasmic vesicle || 2: hyaluronon cable || 3: lysosomal lumen || 4: lysosome || 5: anchored to external side of plasma membrane || 6: anchored to plasma membrane || 7: cytoplasmic membrane-bounded vesicle || 8: cytoplasmic part || 9: endocytic vesicle || 10: membrane raft || 11: microvillus || 12: anchored to membrane || 13: lysosomal membrane || 14: endosome membrane || 15: Golgi-associated vesicle membrane || 16: integral to organelle membrane || 17: late endosome membrane || 18: extracellular matrix || 19: endoplasmic reticulum lumen || 20: platelet alpha granule lumen || 21: intrinsic to membrane || 22: mitochondrial outer membrane || 23: nuclear envelope || 24: dendrite ||

ECM 2, Gene set "hyaluronon cable", Page 2

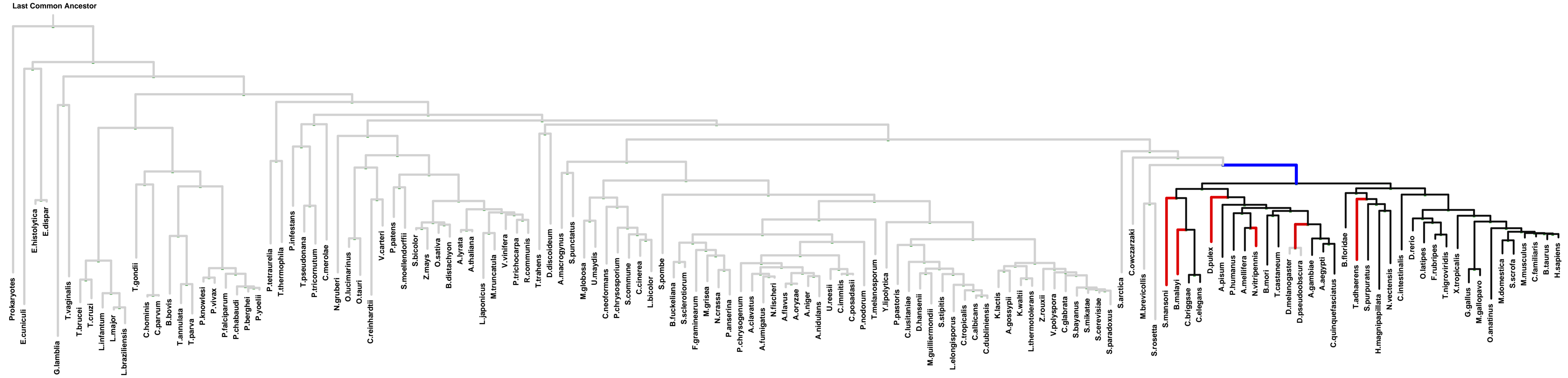
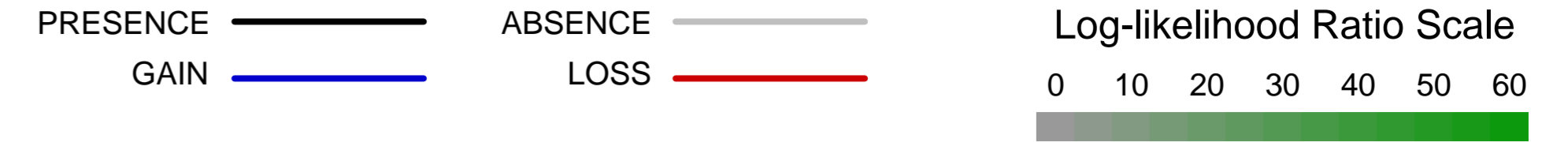
Num of ECM Genes: 1. Num of Predicted Genes: 71



1: histone methyltransferase complex || 2: flagellum || 3: motile cilium || 4: CRLF-CLCF1 complex || 5: B cell receptor complex || 6: external side of plasma membrane || 7: membrane raft || 8: multivesicular body || 9: peroxisomal matrix || 10: peroxisome || 11: cis-Golgi network || 12: endocytic vesicle || 13: endosome membrane || 14: Golgi cisterna membrane || 15: Golgi lumen || 16: integral to mitochondrial outer membrane || 17: mitochondrial outer membrane || 18: pore complex || 19: anchored to membrane || 20: basolateral plasma membrane

ECM 2, Gene set "hyaluronon cable", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 71



PG
M
M

Protein	LLR	Notes
RGMA	0.0	1
RGMB	0.0	2/3/4

1: anchored to membrane || 2: anchored to plasma membrane || 3: endoplasmic reticulum-Golgi intermediate compartment || 4: membrane raft