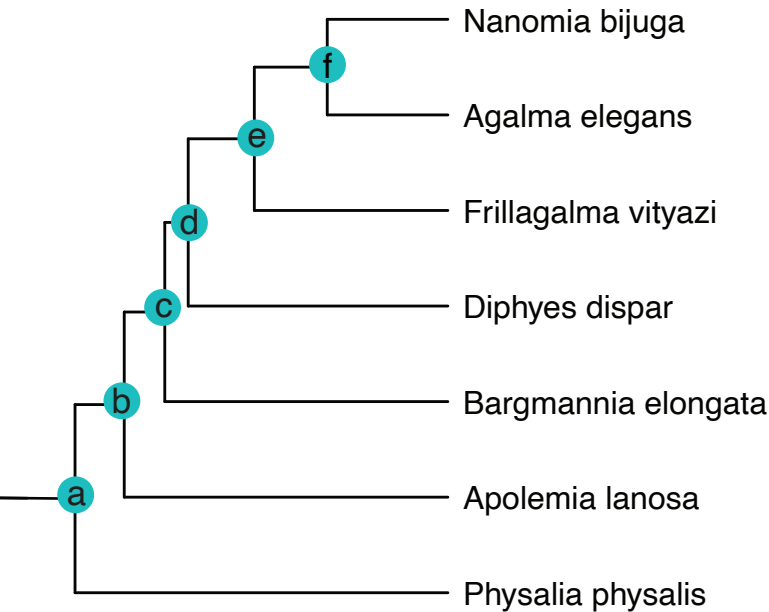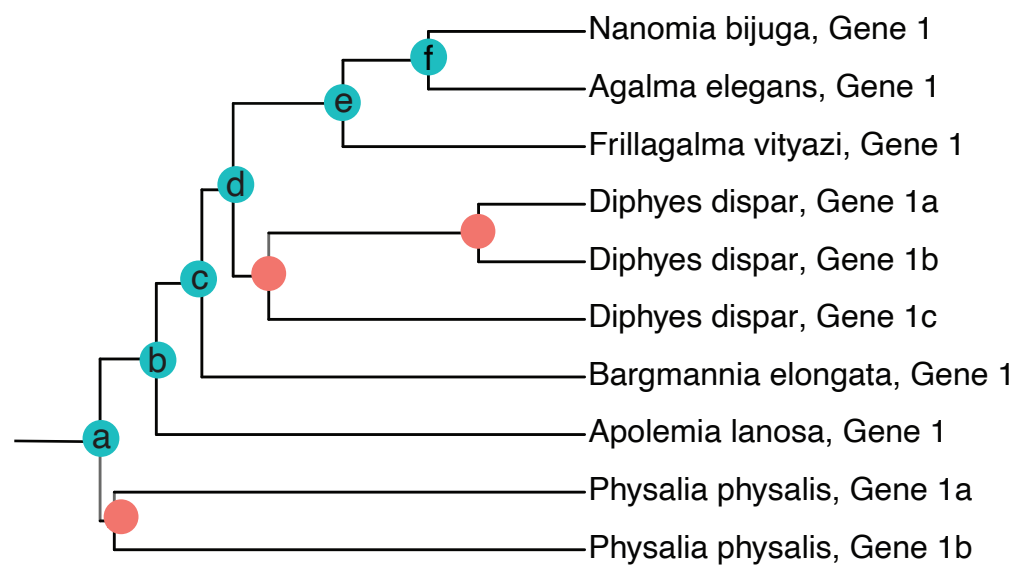**① Identify speciation and duplication nodes in the gene tree**

Siphonophore phylogeny
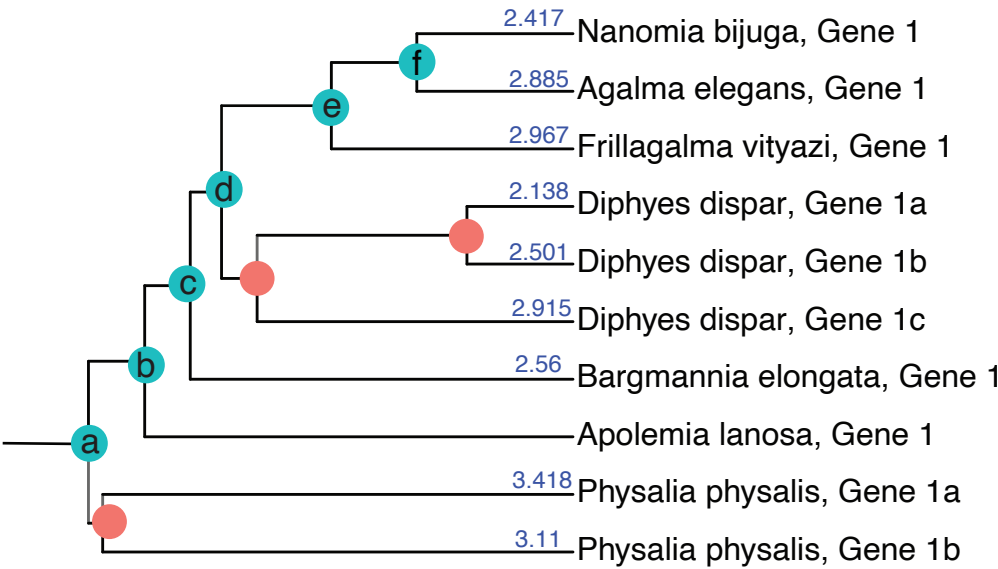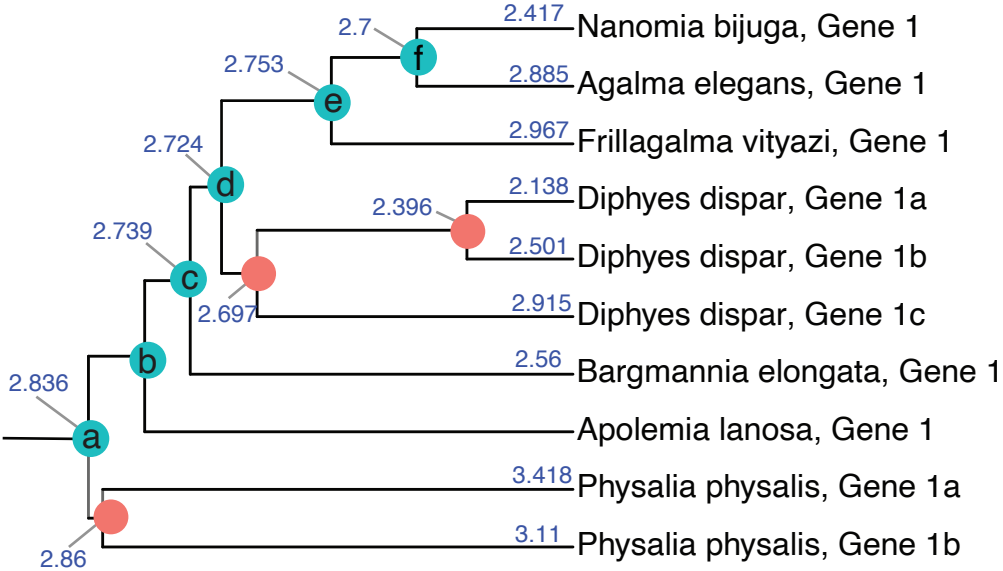
An exemplar gene tree

● Speciation event   ● Duplication event
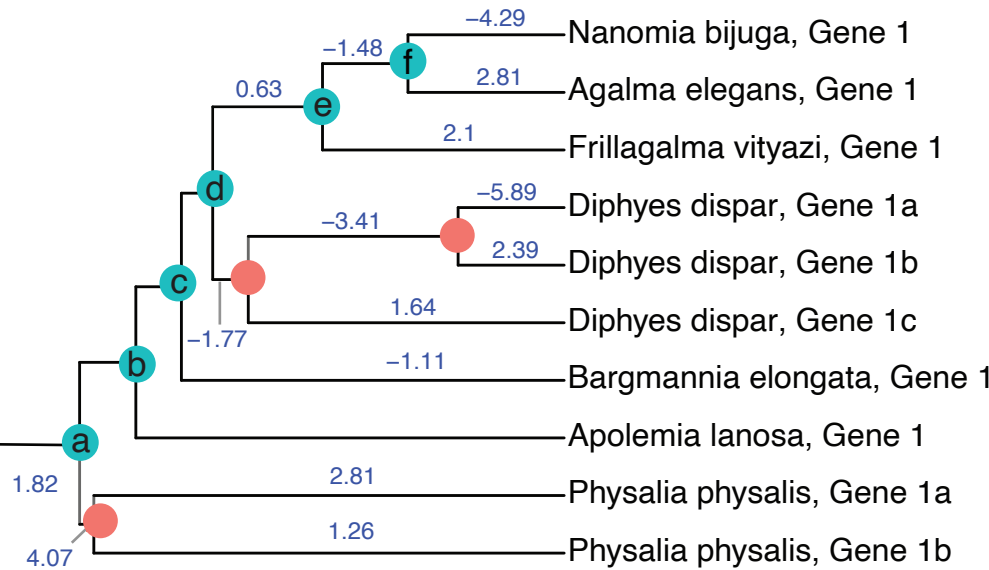
② Map expression values to tips of gene tree

③ Reconstruct ancestral expression values at nodes

④ Calculate scaled change across branches

$$\text{Scaled change} = \frac{\text{Child node - parent node}}{\text{Calibrated branch length}}$$

⑤ Isolate corresponding branches across all gene trees

Species phylogeny

— Focal branch

Gene tree 1

Gene tree 2

...n gene trees