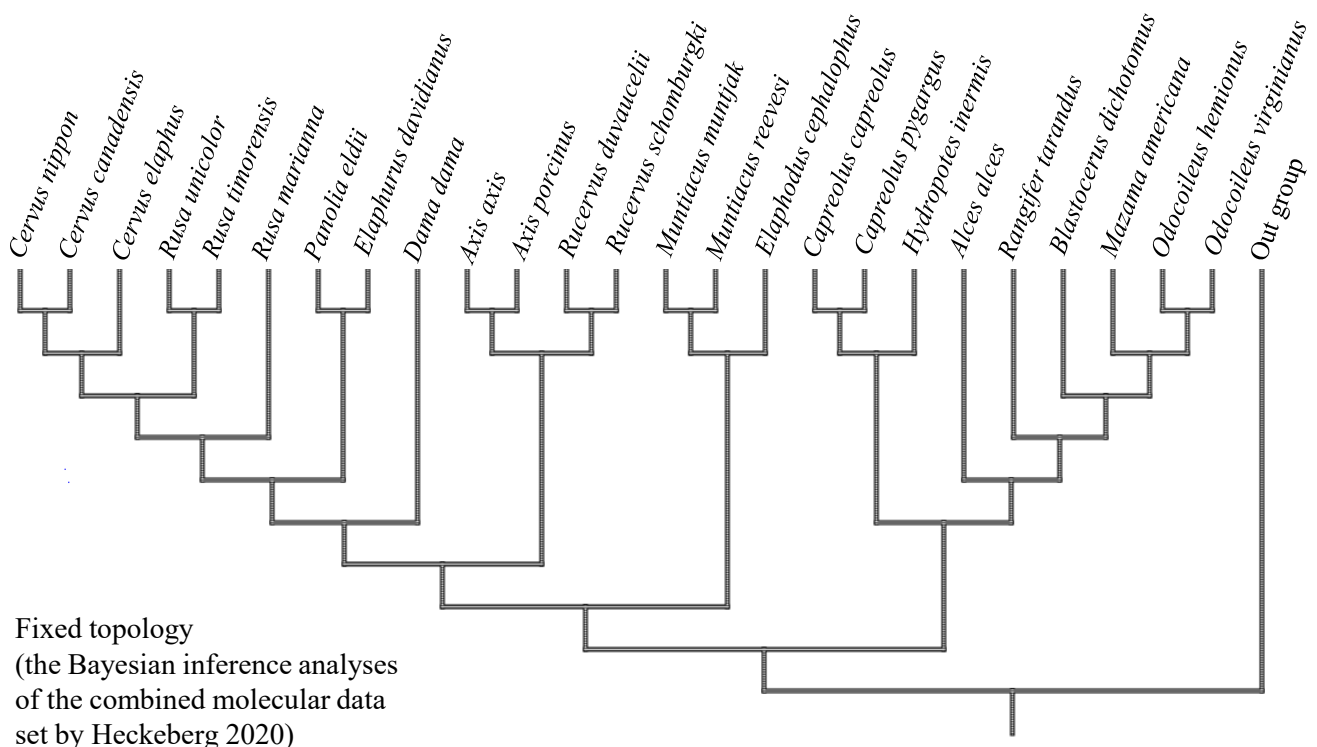


# A new viewpoint on antlers reveals the evolutionary history of deer (Cervidae, Mammalia)

Yuusuke Samejima & Hiroshige Matsuoka

## Supplementary Information 8

### Ancestral reconstruction of each homologous element on the fixed topology



Character state reconstruction of the elements in adults on the fixed topology are shown in the following pages.

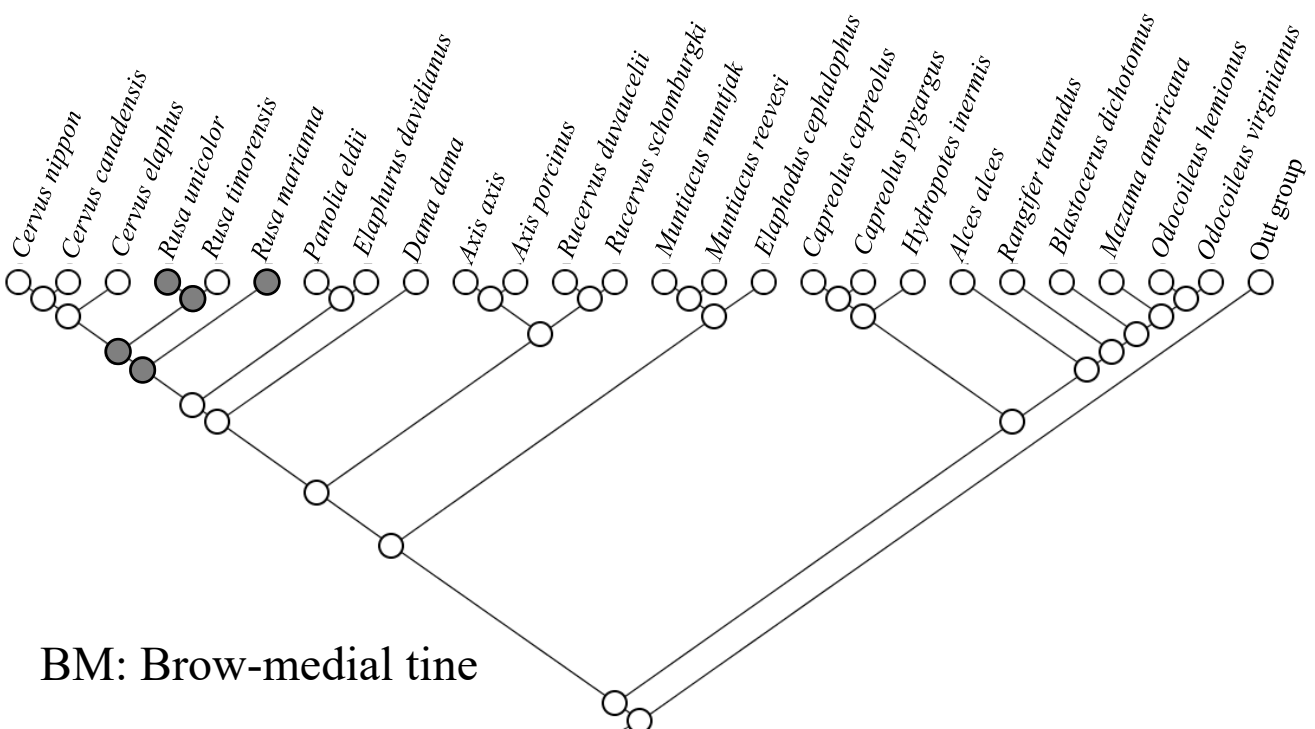
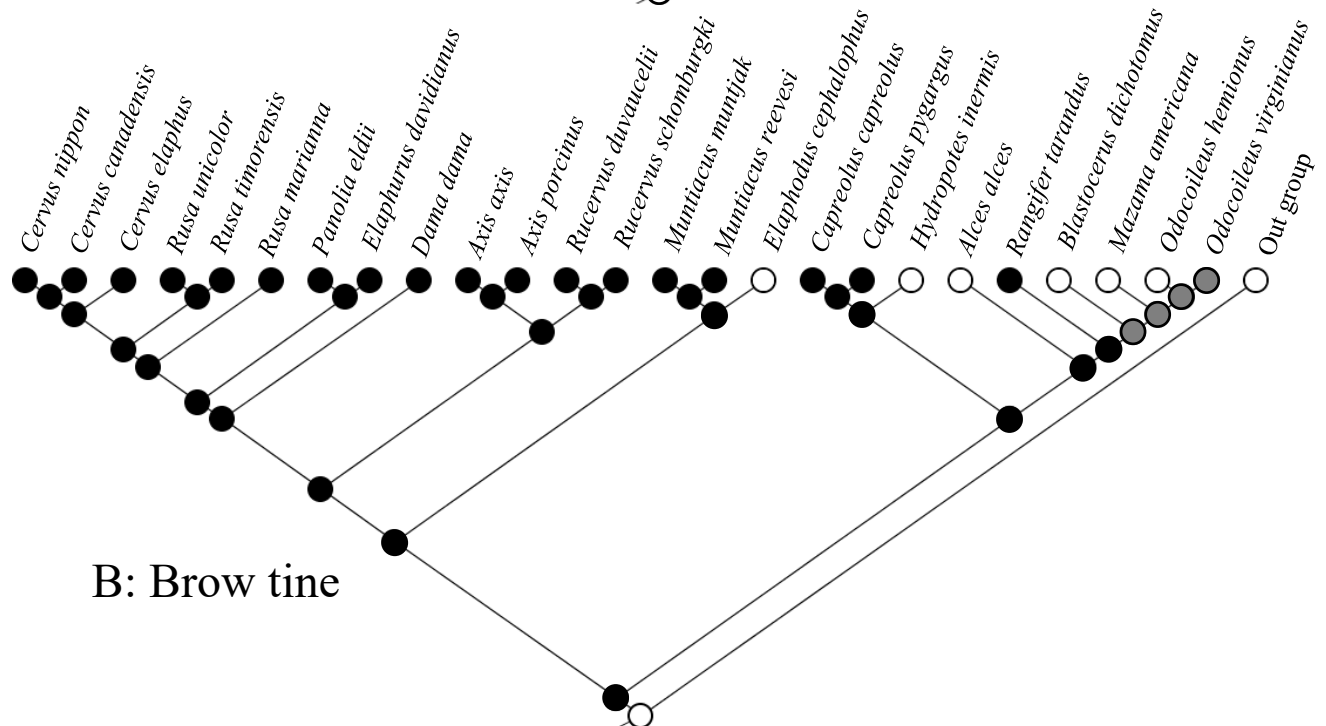
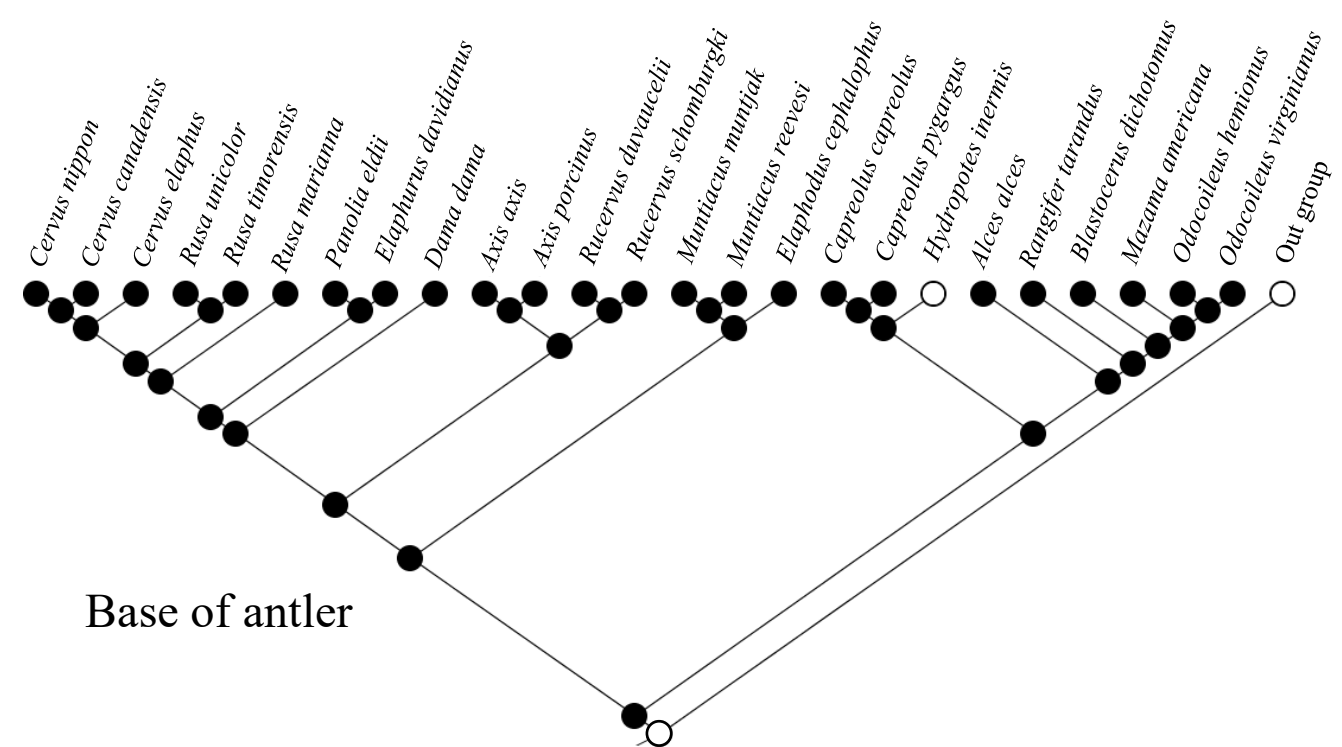
The characters states of the terminal nodes are by observed percentages in this study, and those of the inner nodes are by reconstruction.

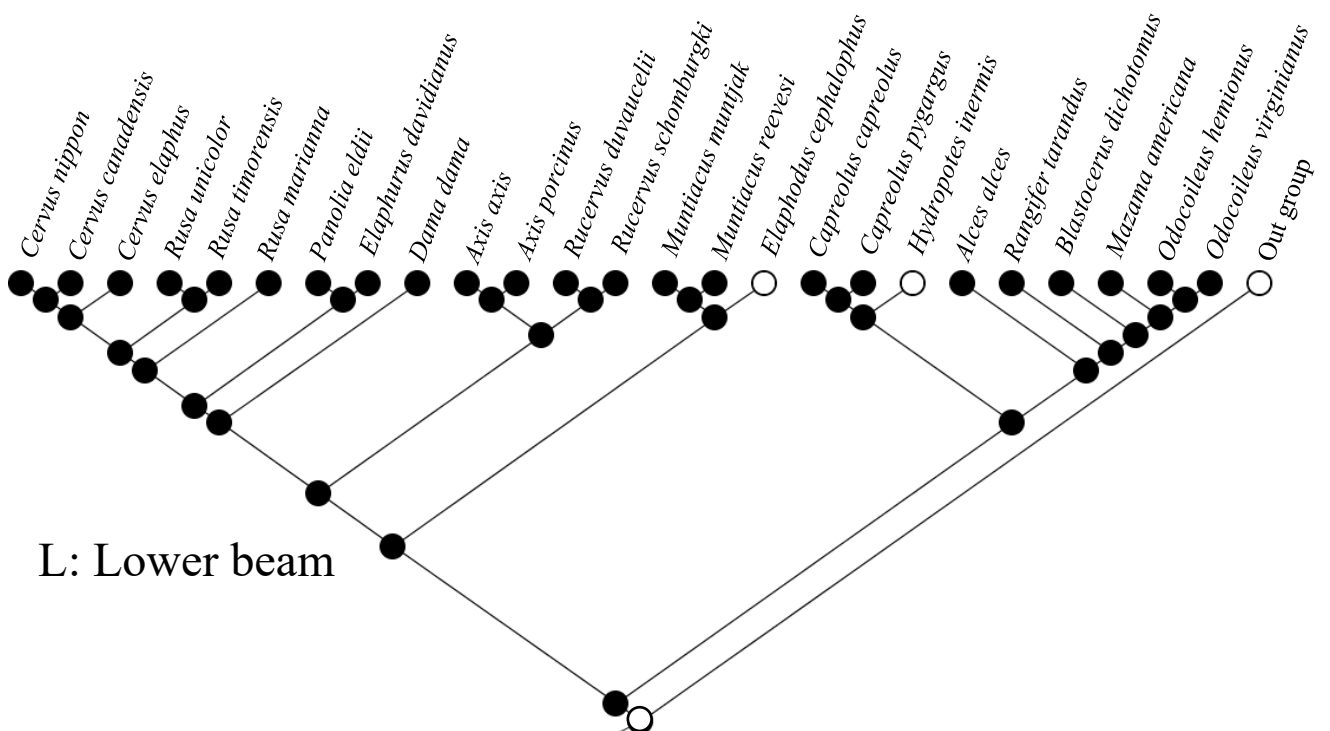
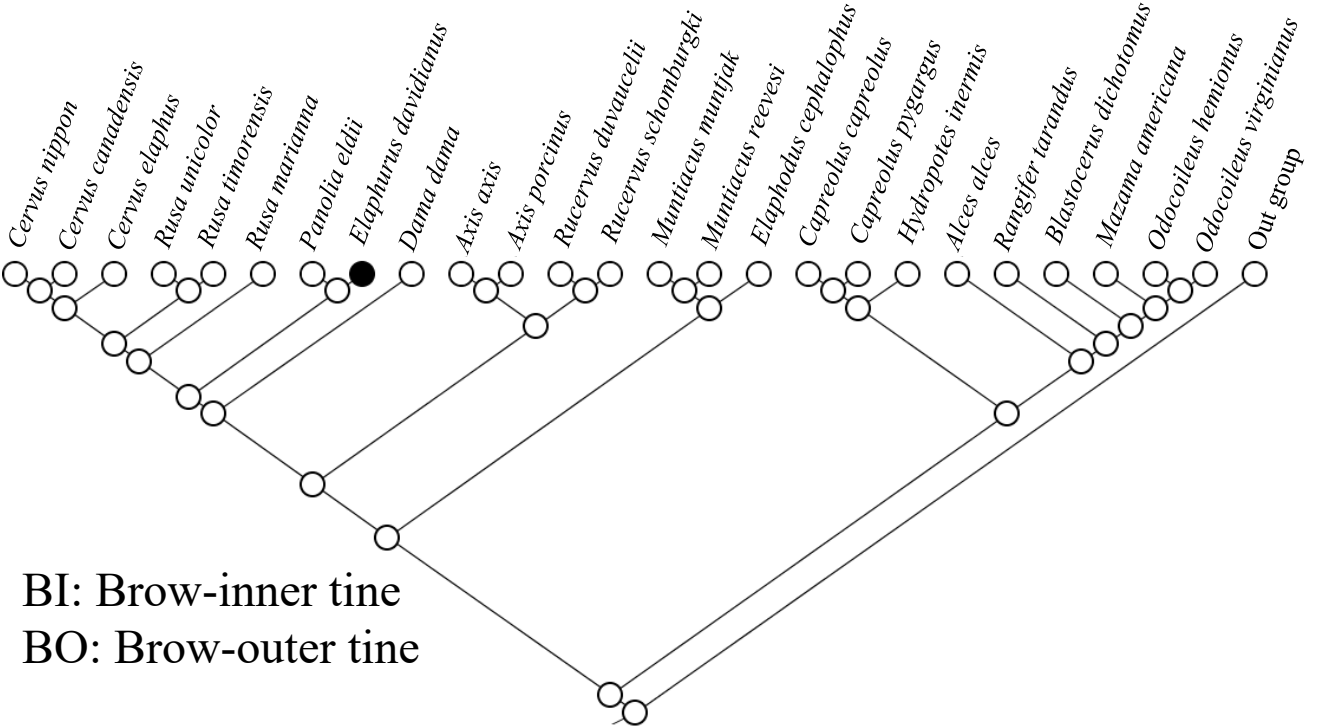
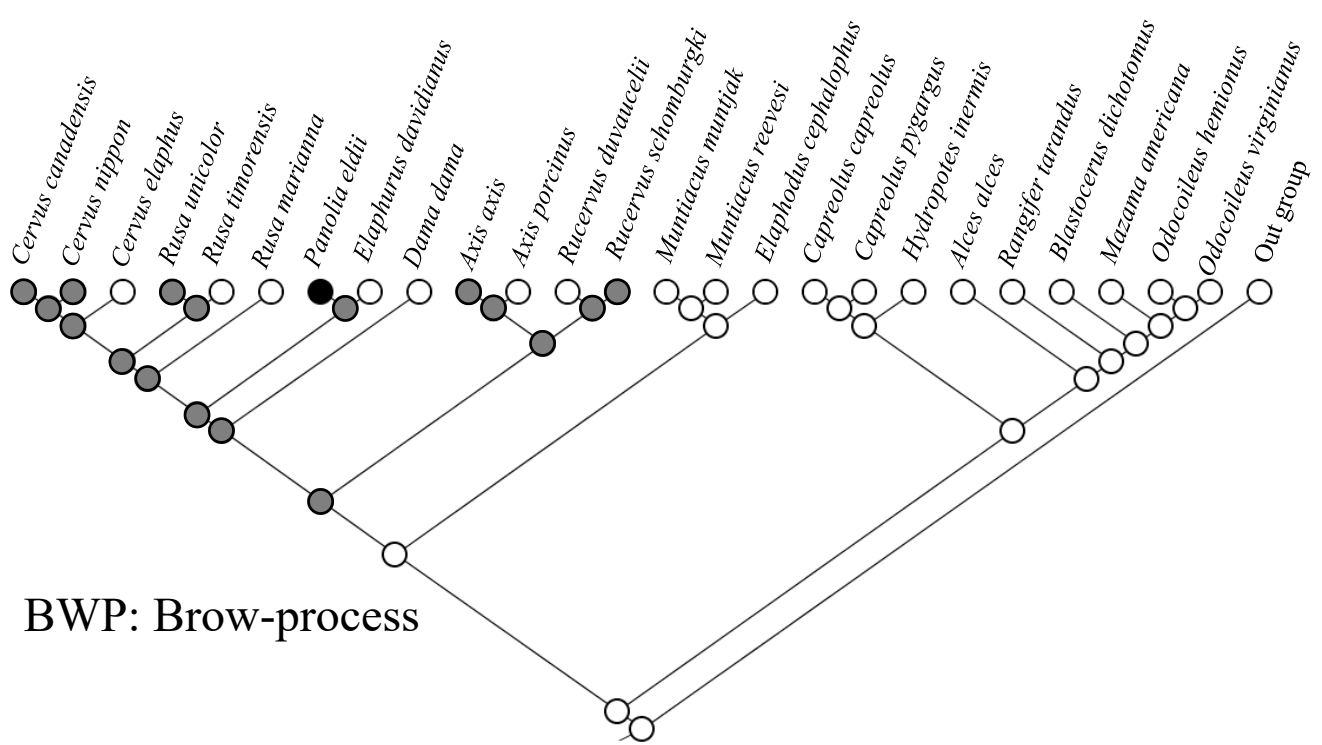
- 0 : 0% (None)
- 1 : Less than 80% (Not typical)
- 2 : More than 80% (Typical)

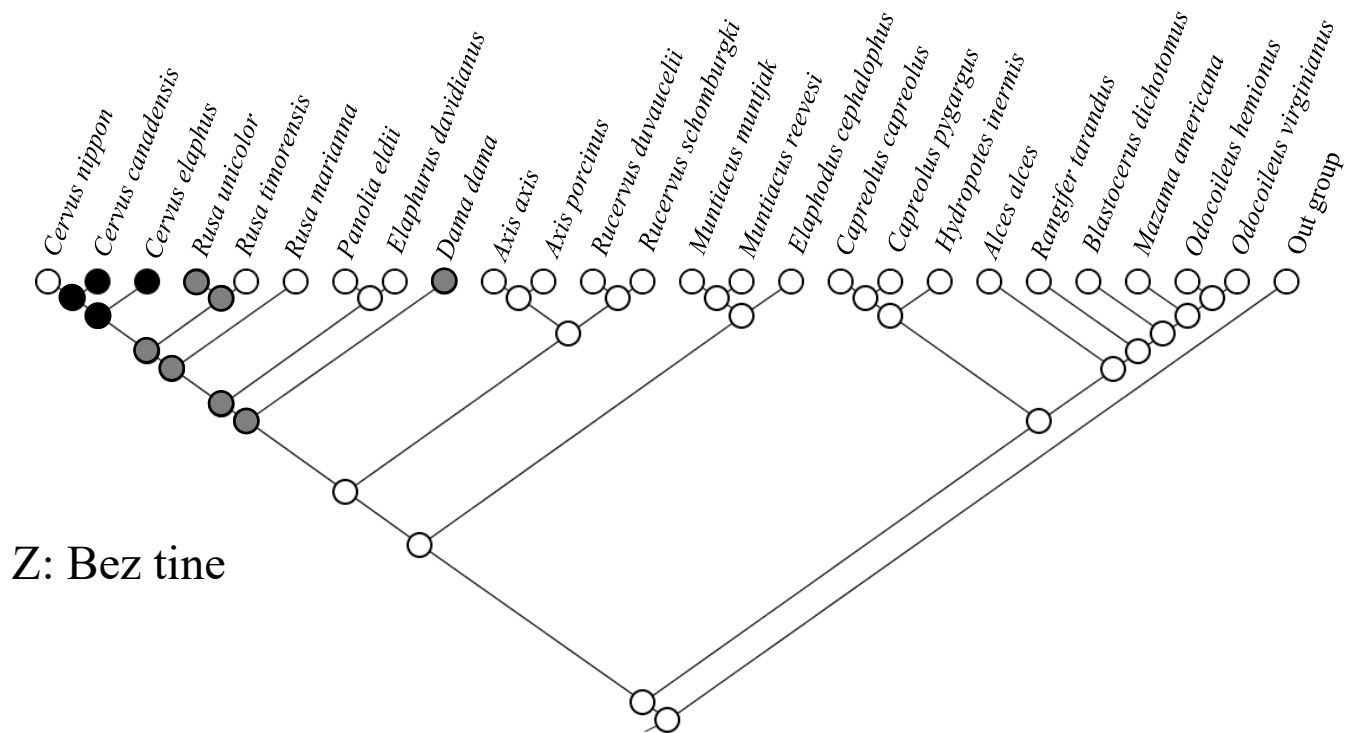
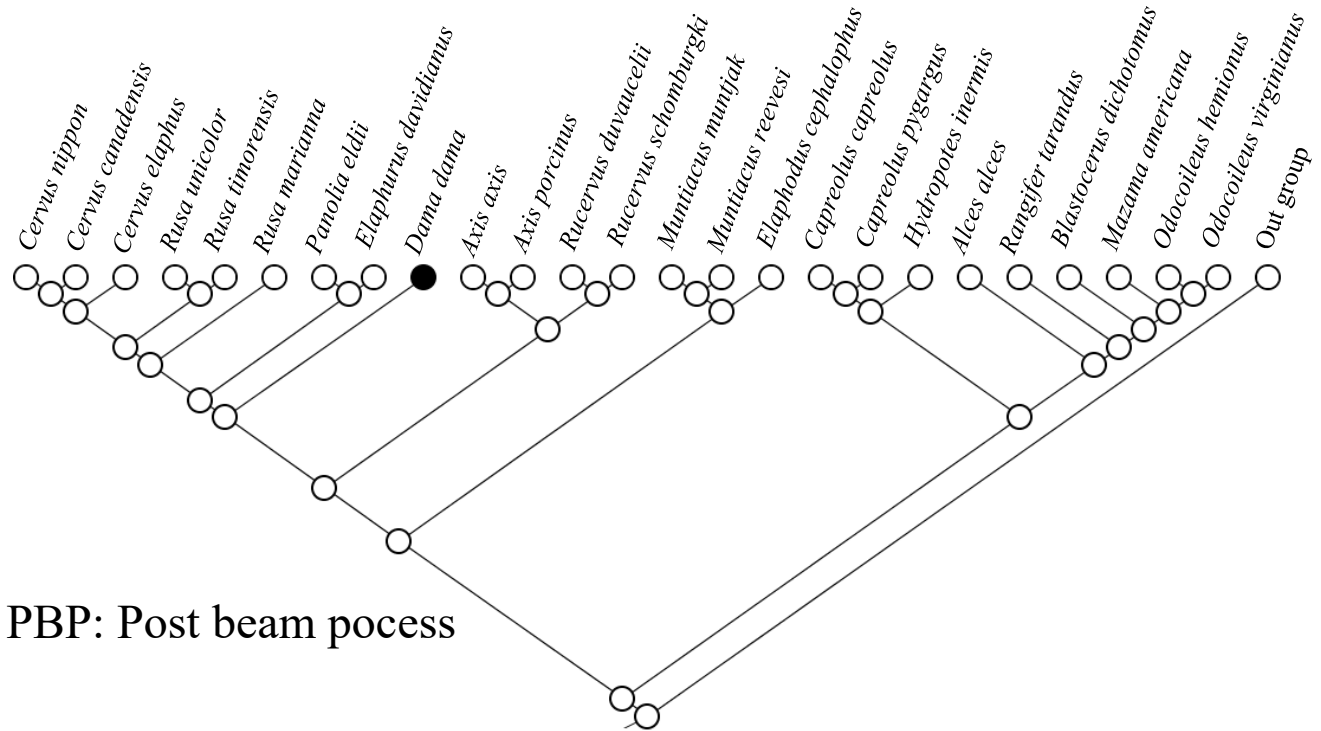
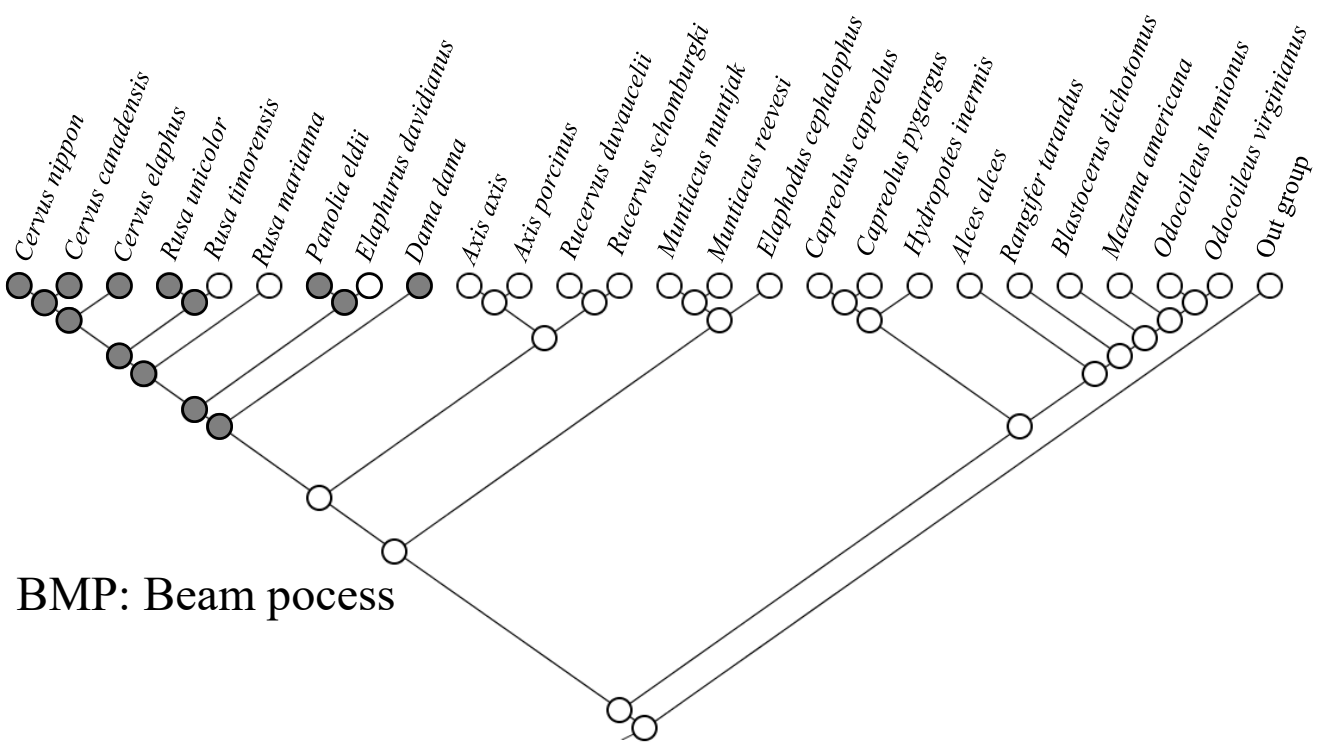
Percentage of each element is shown in Supplementary Information 7.

The reconstructed is by Dollo parsimony between character state 0 and 1, and by standard parsimony (ACCTRAN) between character state 1 and 2. The fixed topology is from the Bayesian inference analyses of combined molecular data set by Heckeberg (2020).

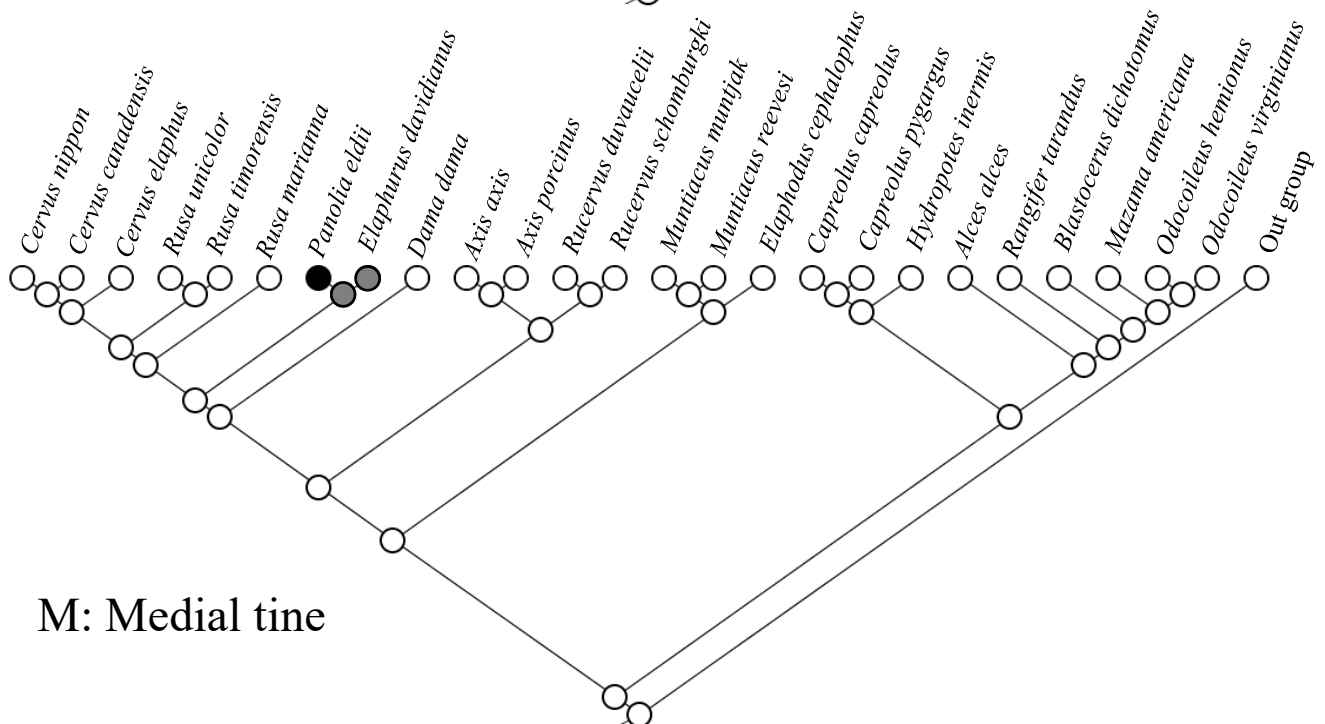
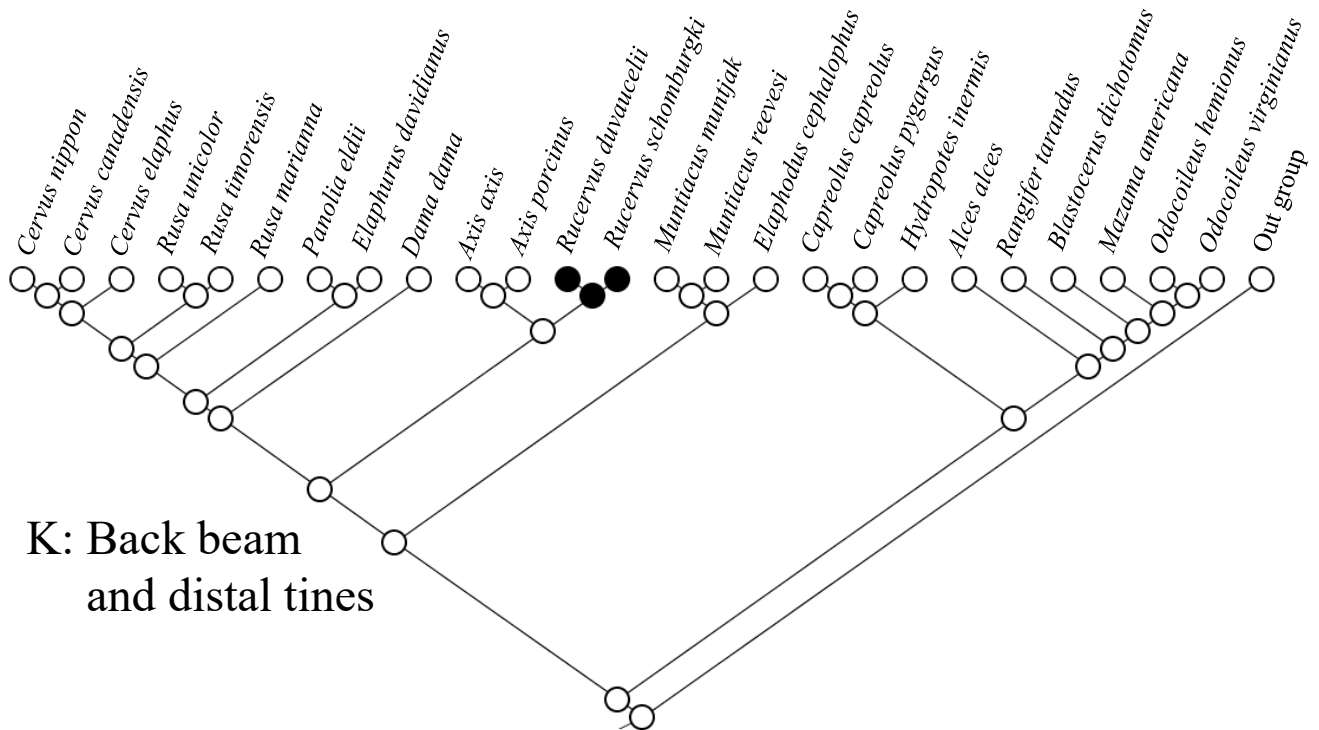
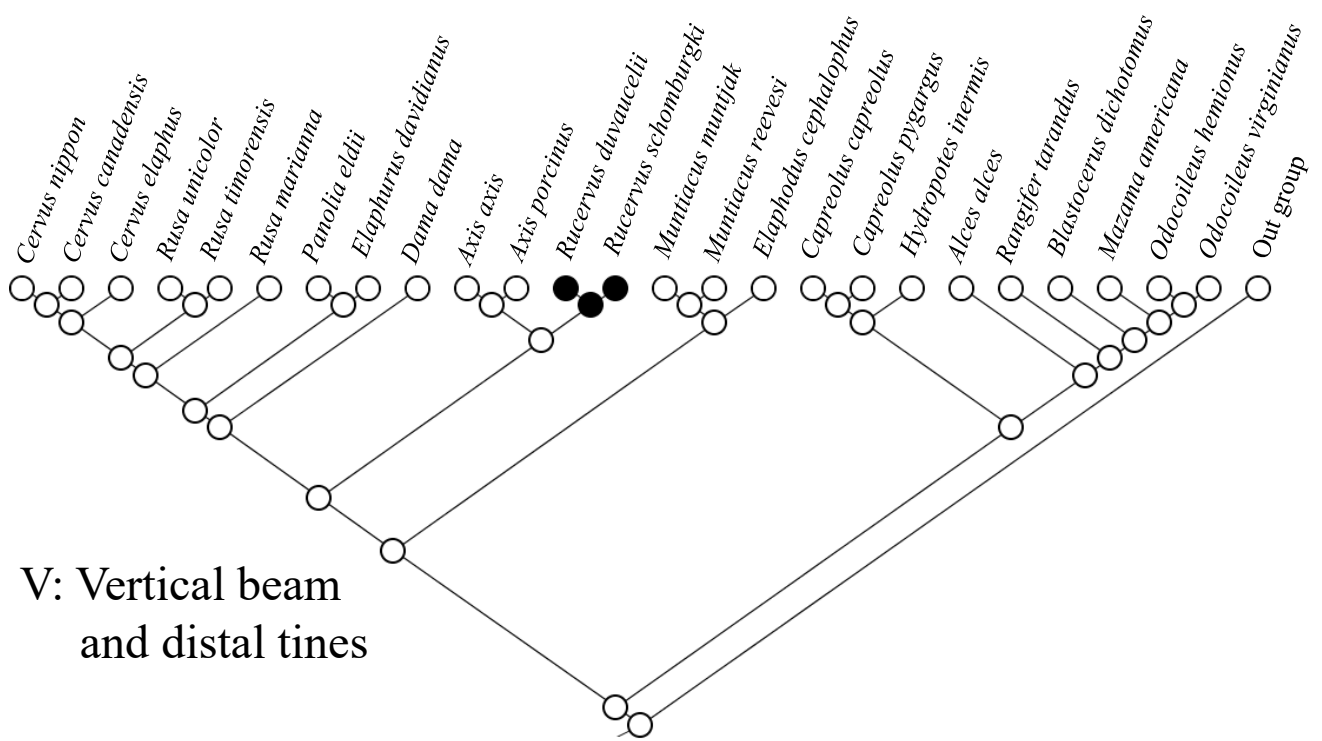
The figures are made by Mesquite ver.3.61 and partly modified by hand.

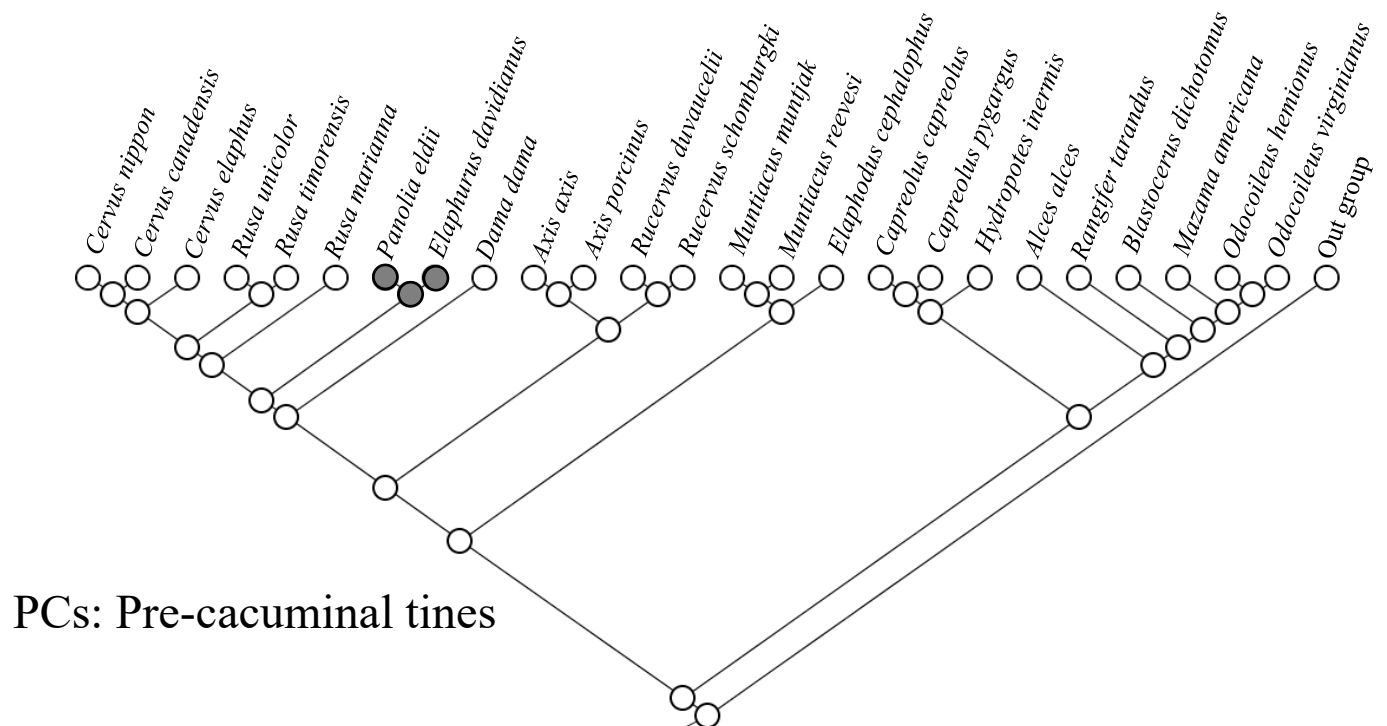
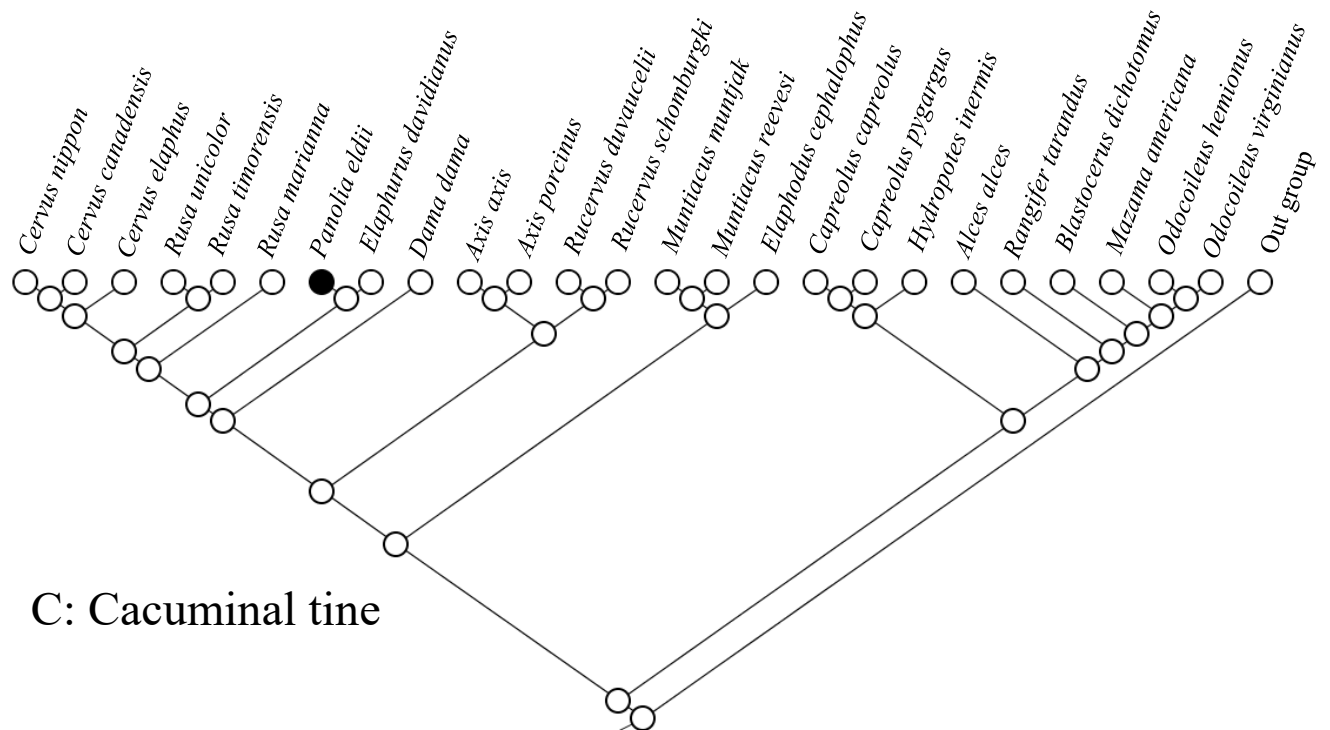
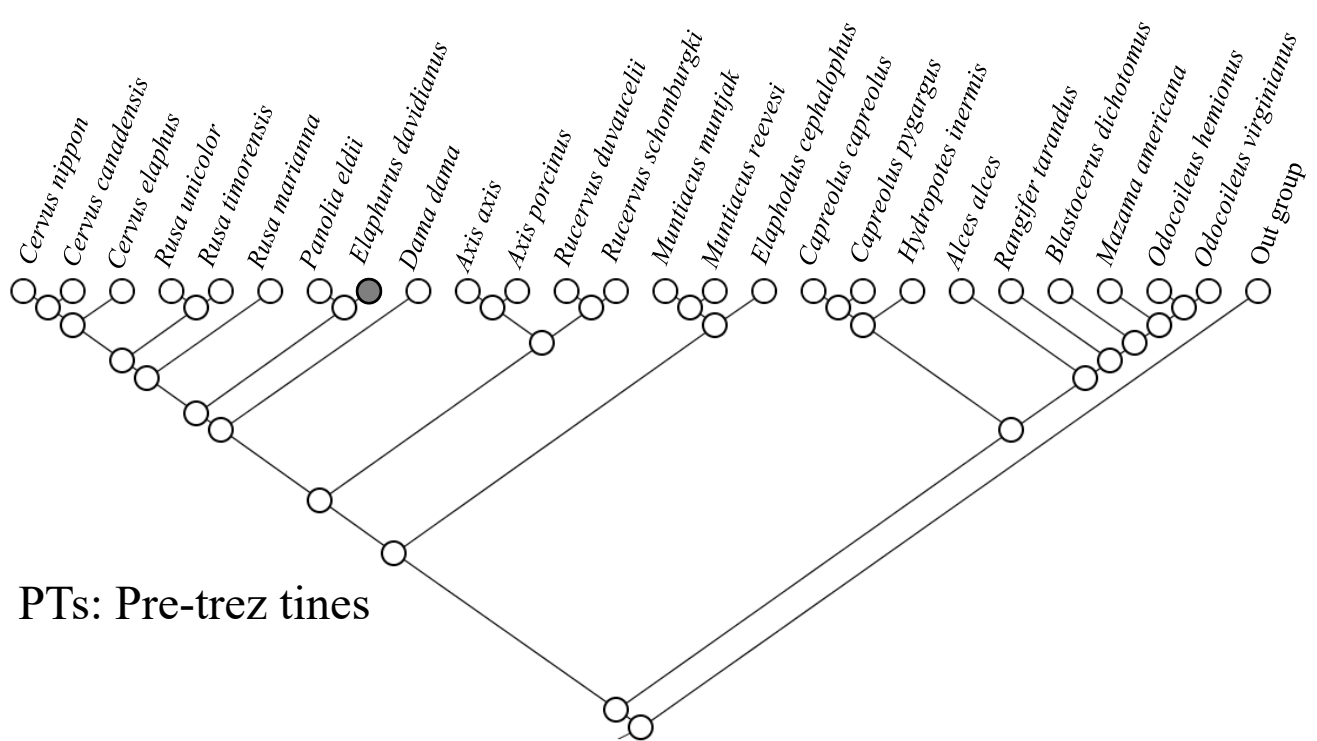


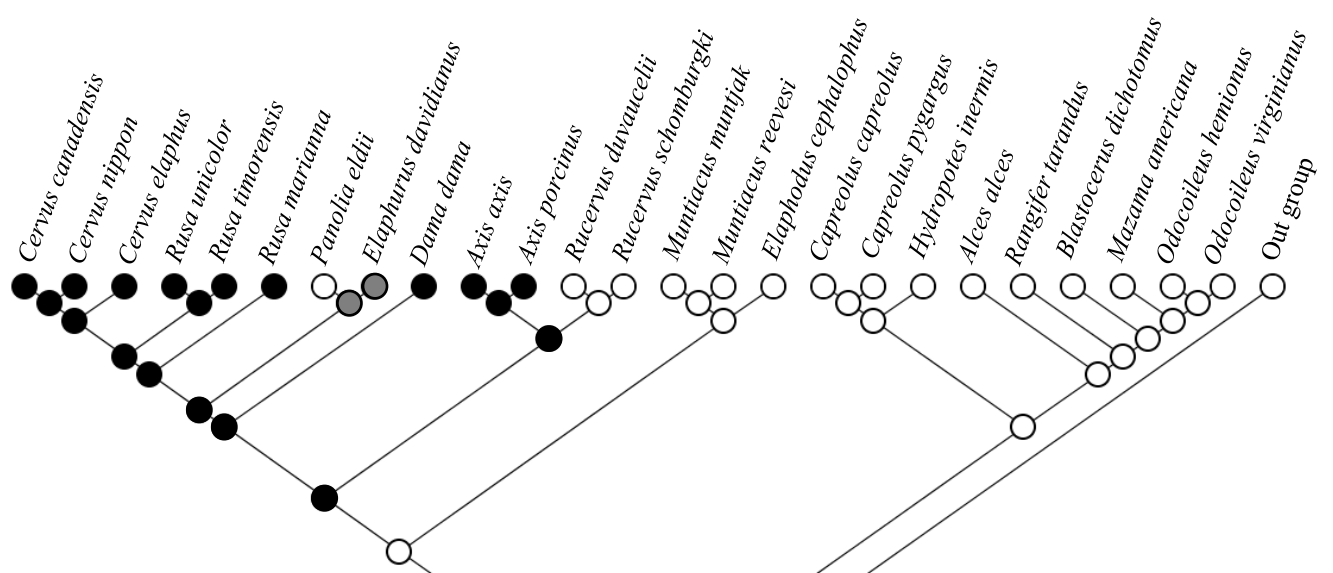




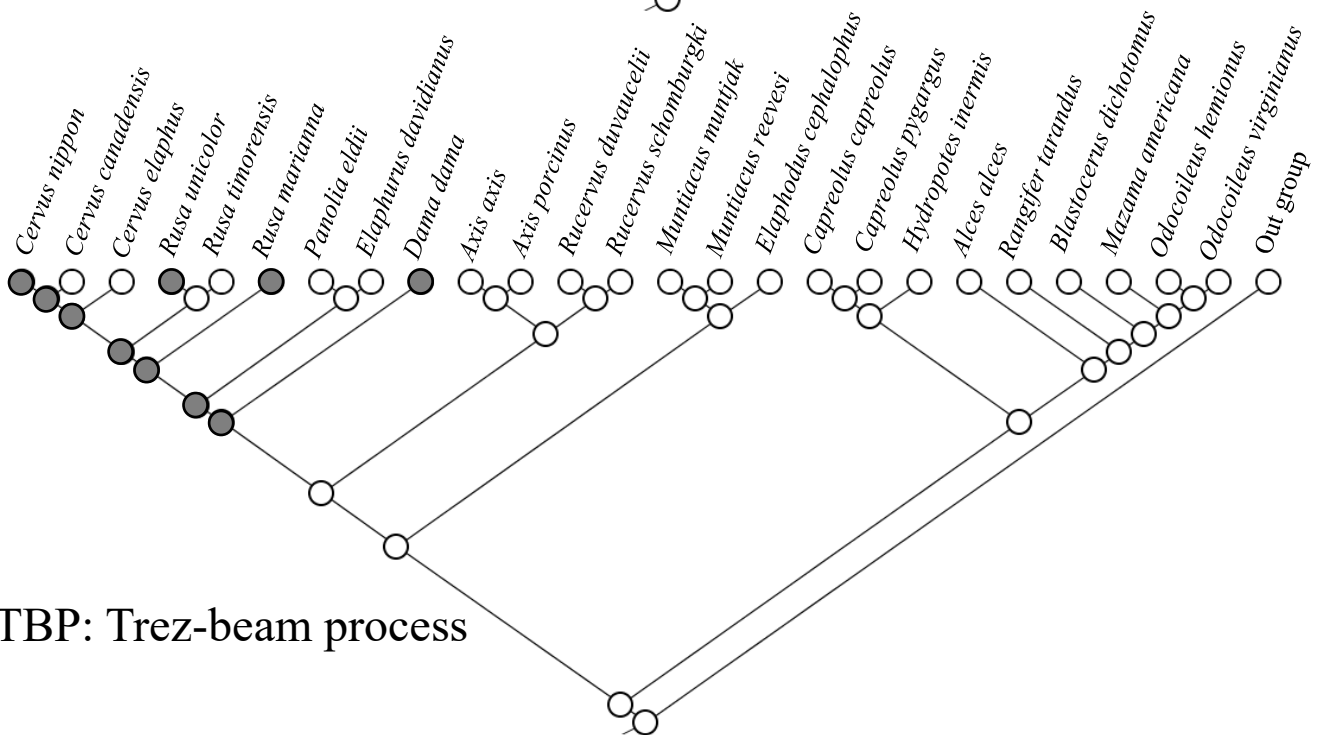




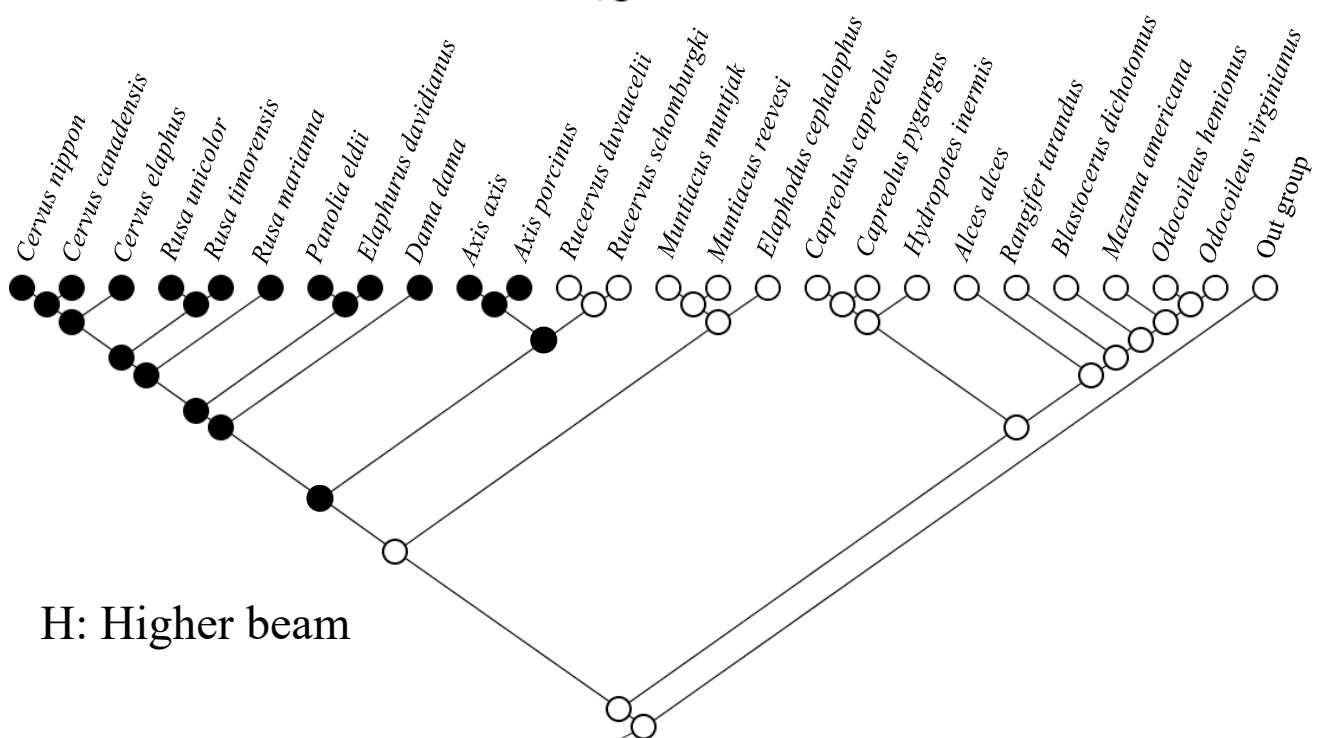




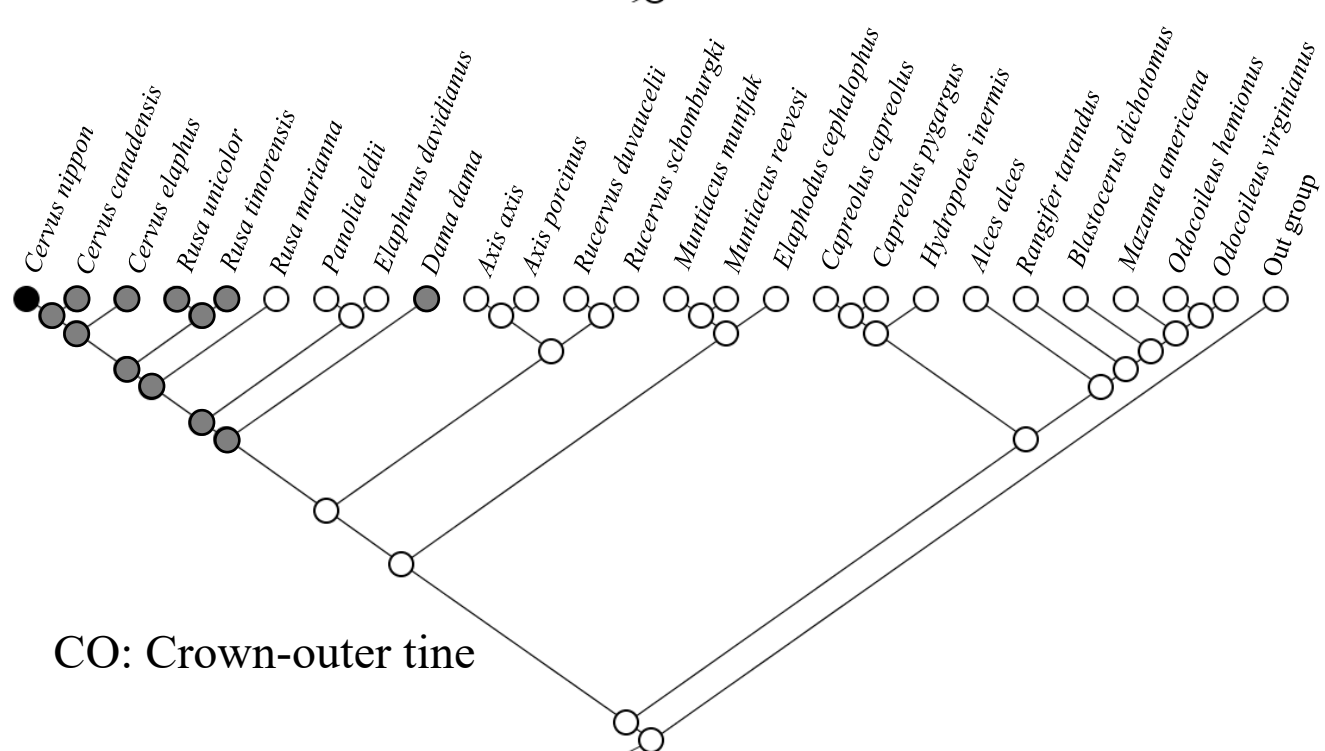
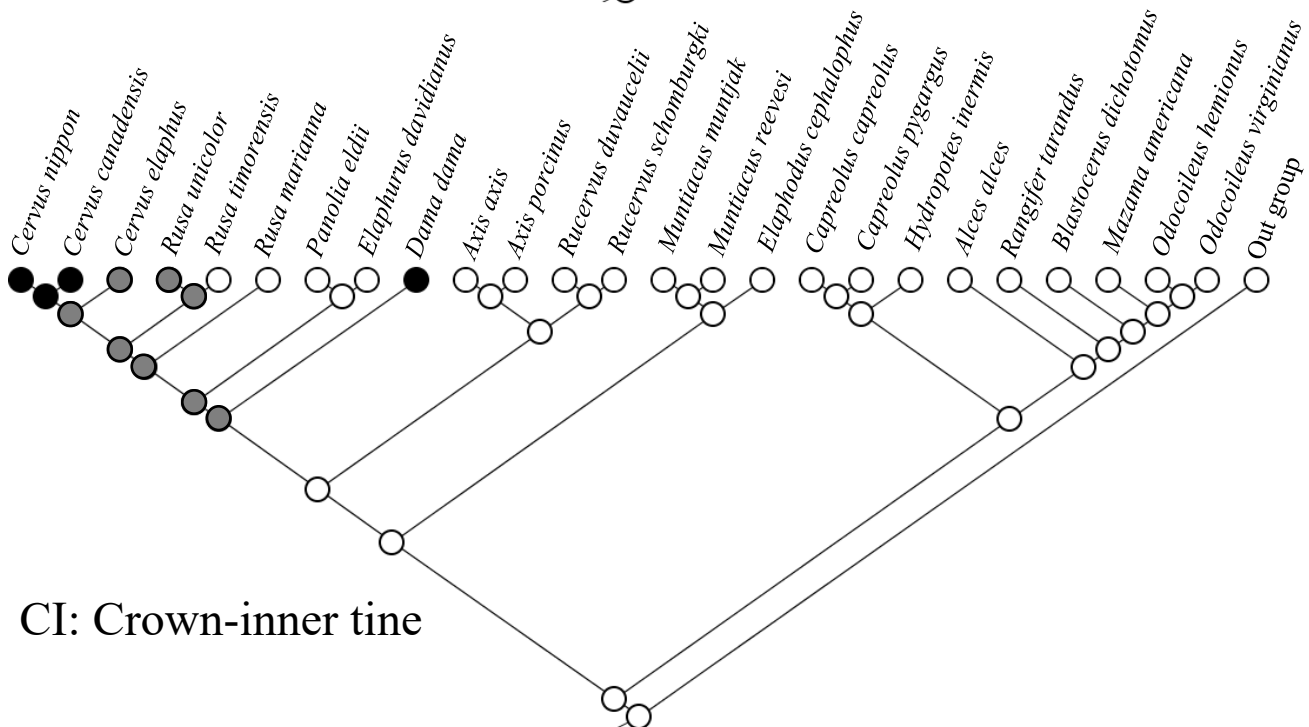
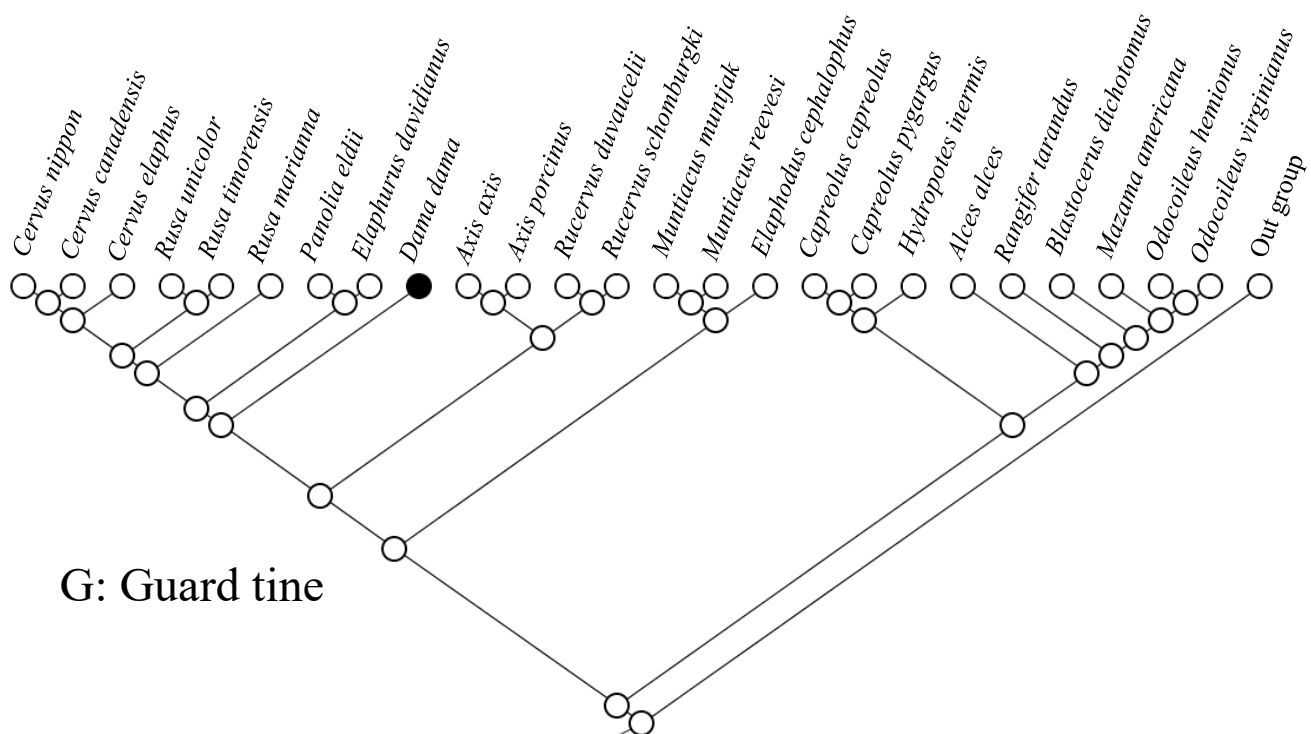
T: Trez time

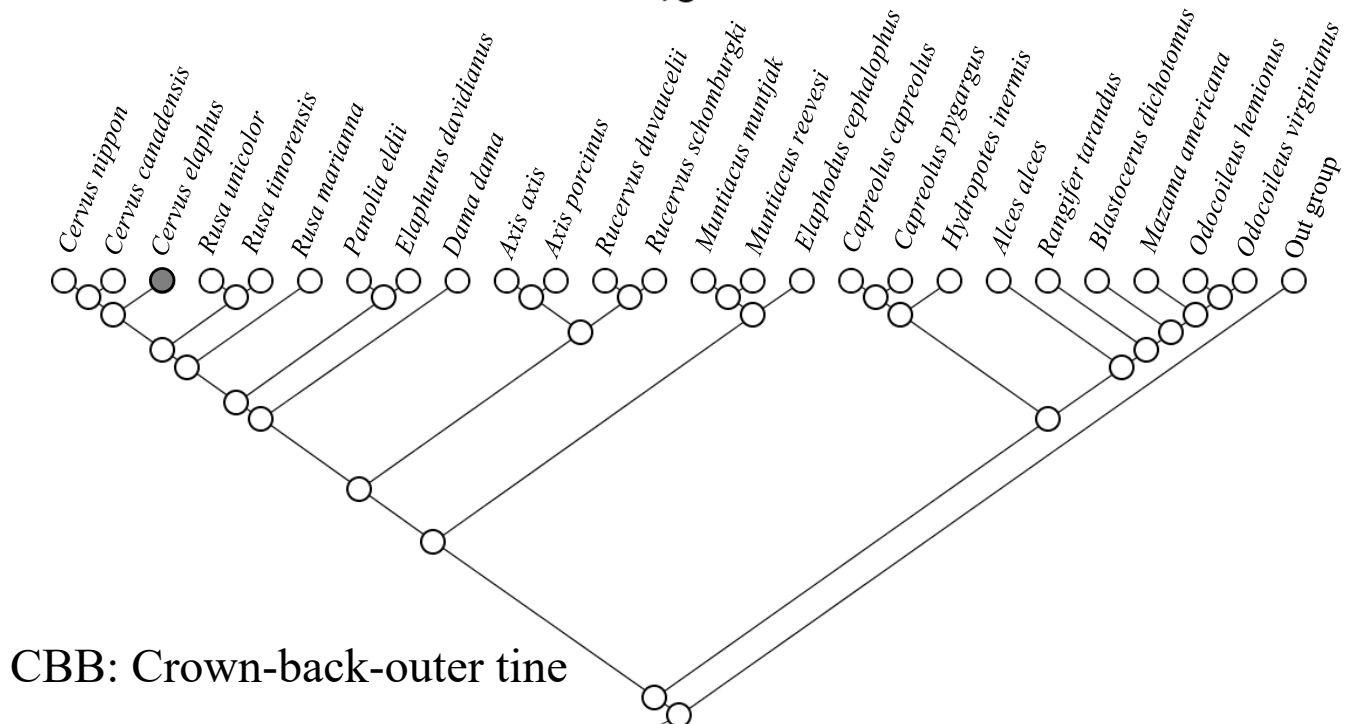
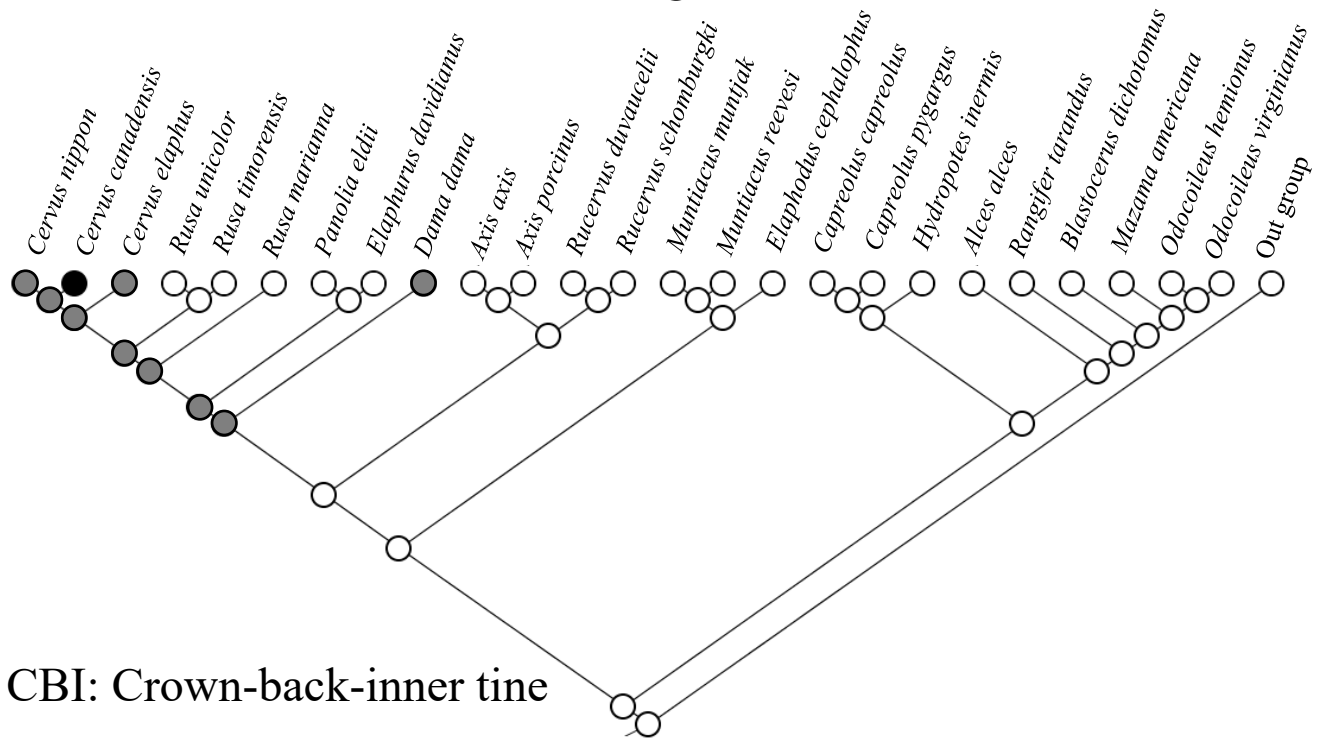
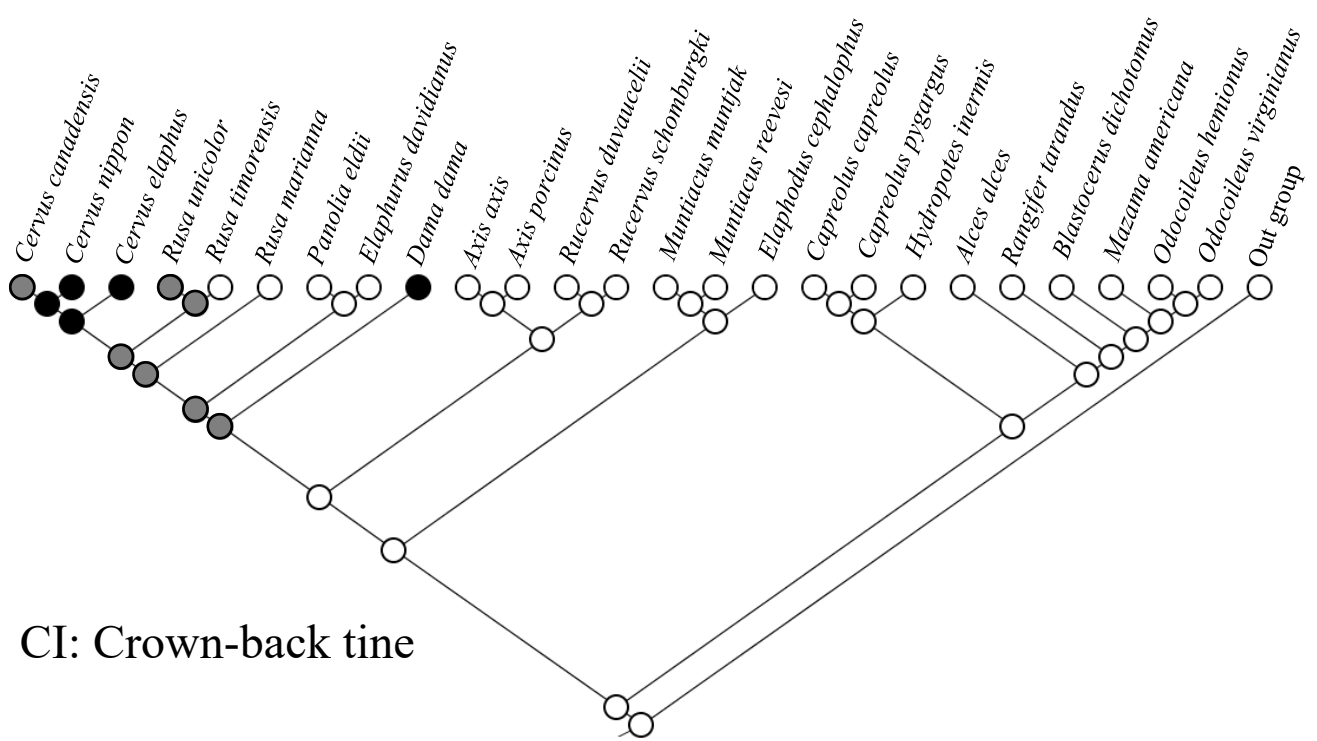


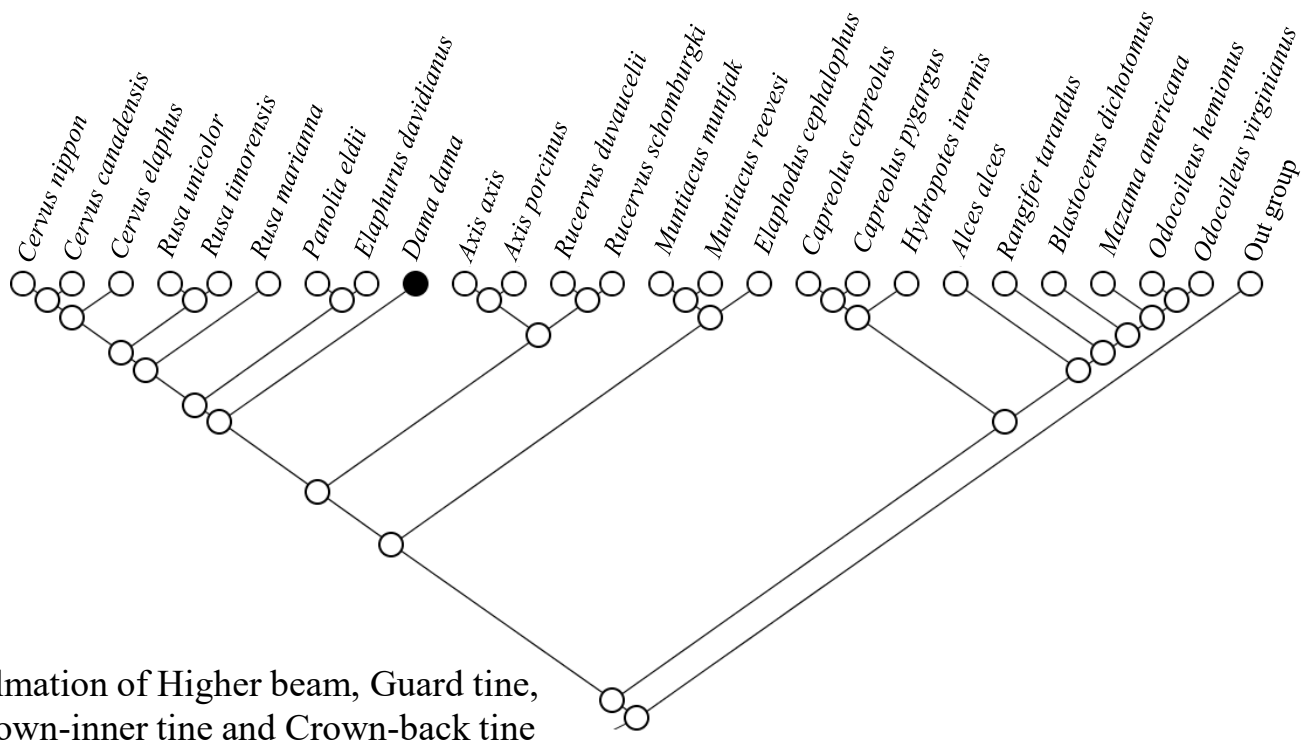
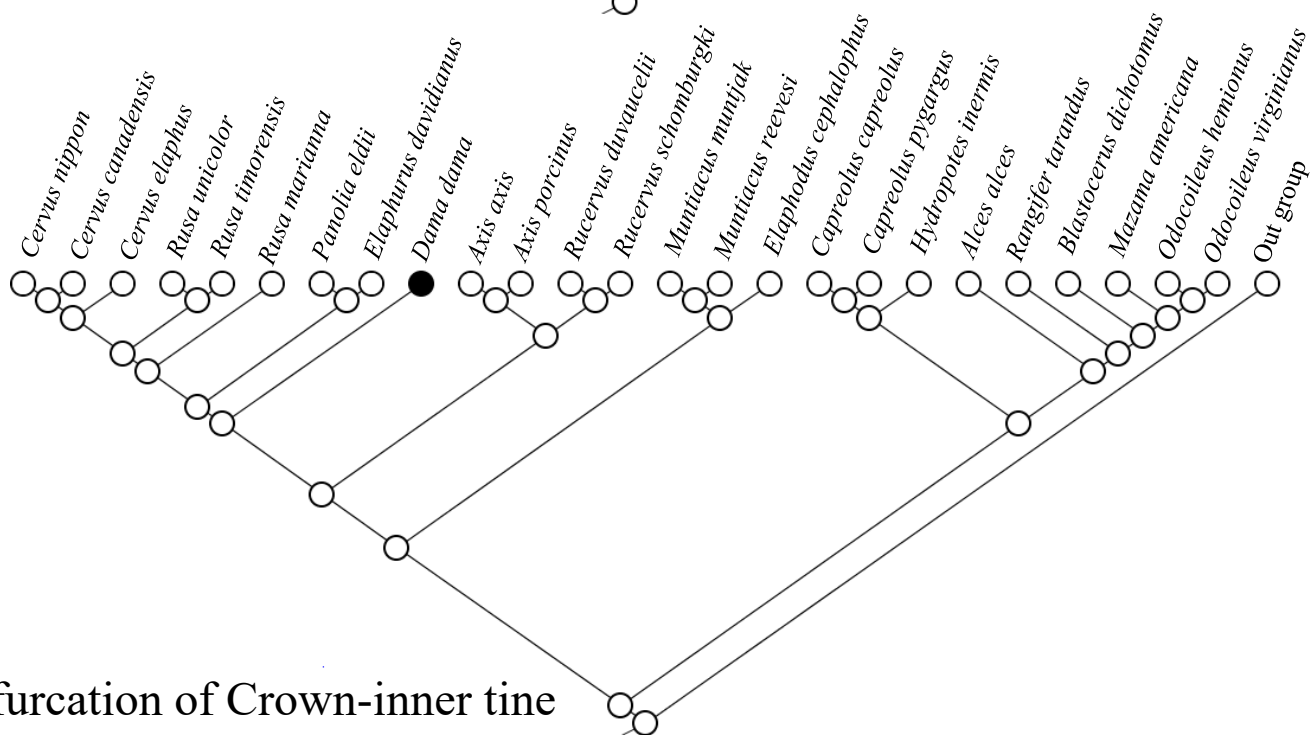
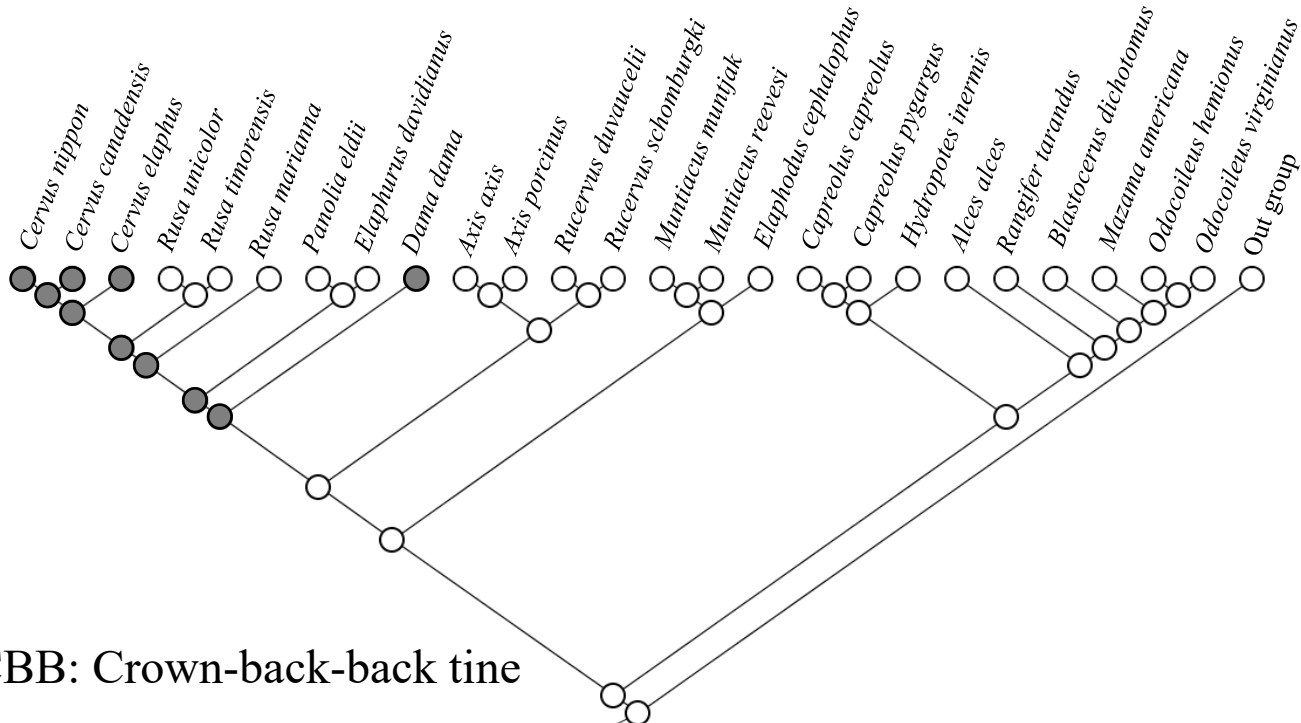
TBP: Trez-beam process

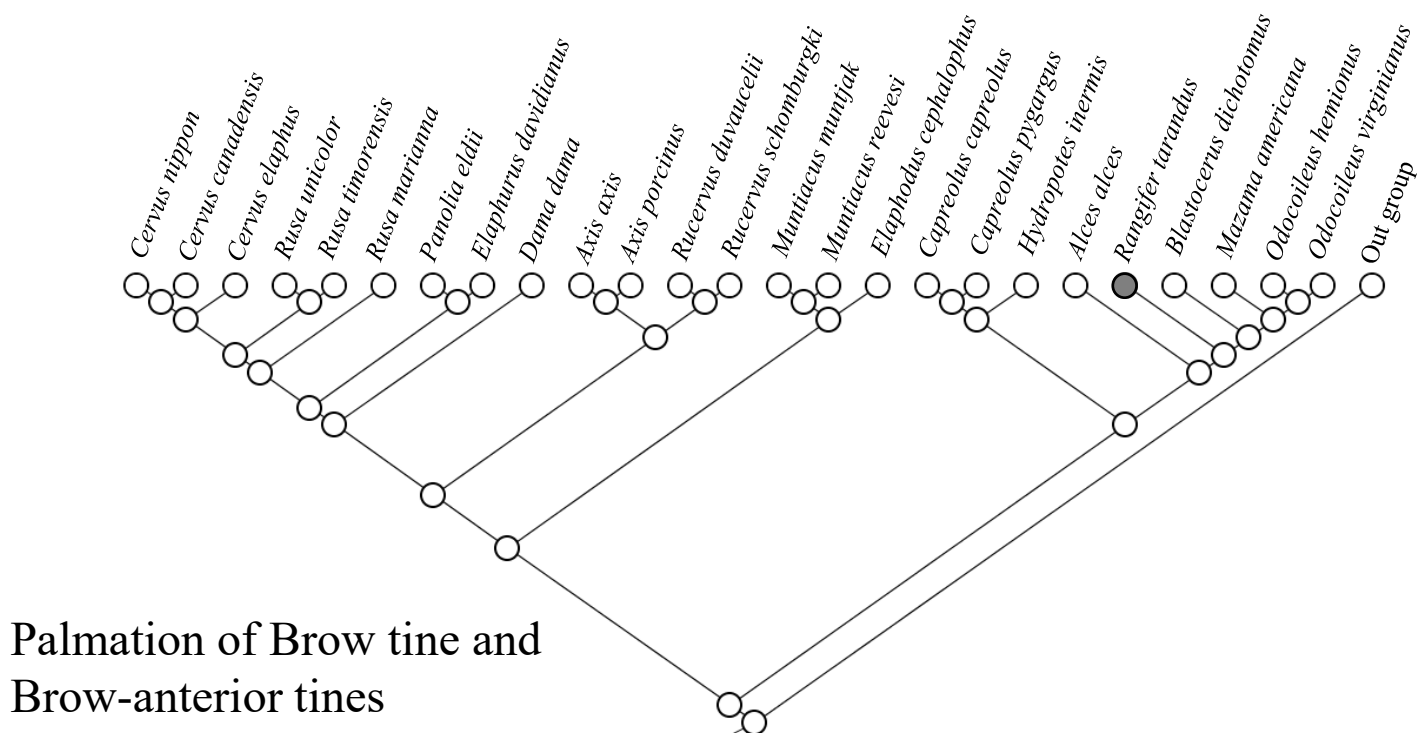
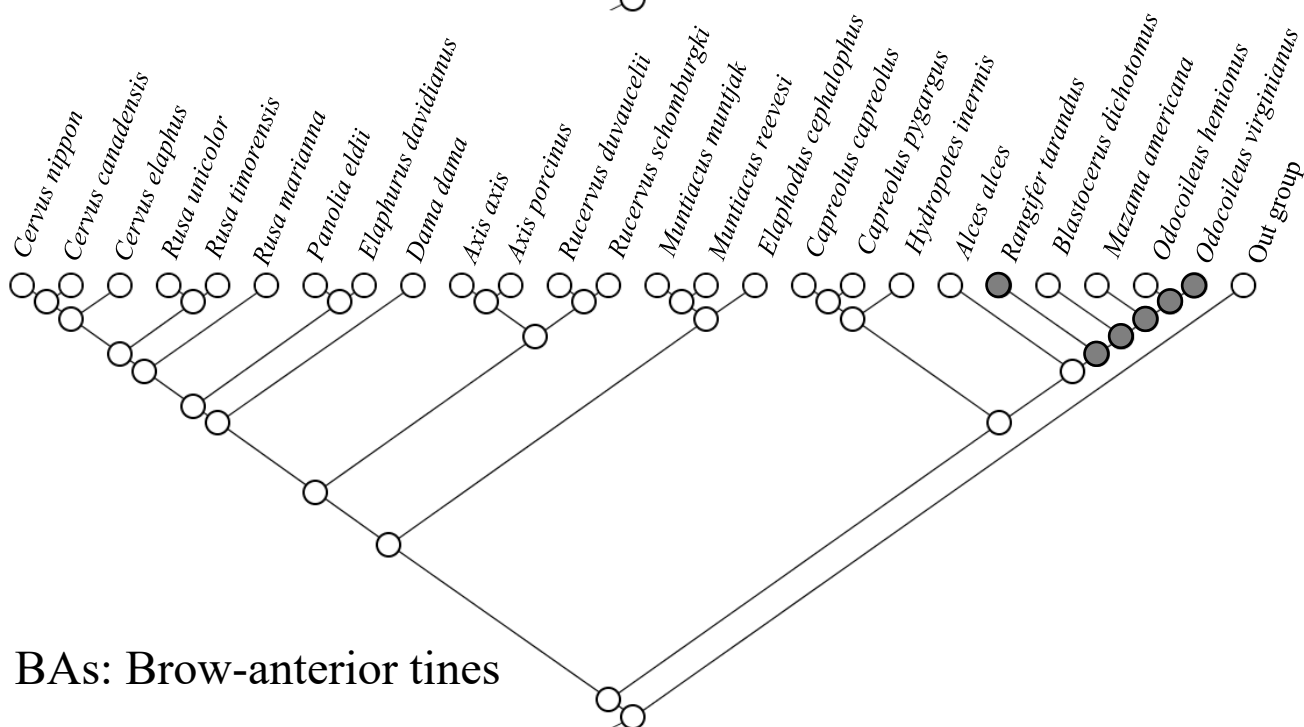
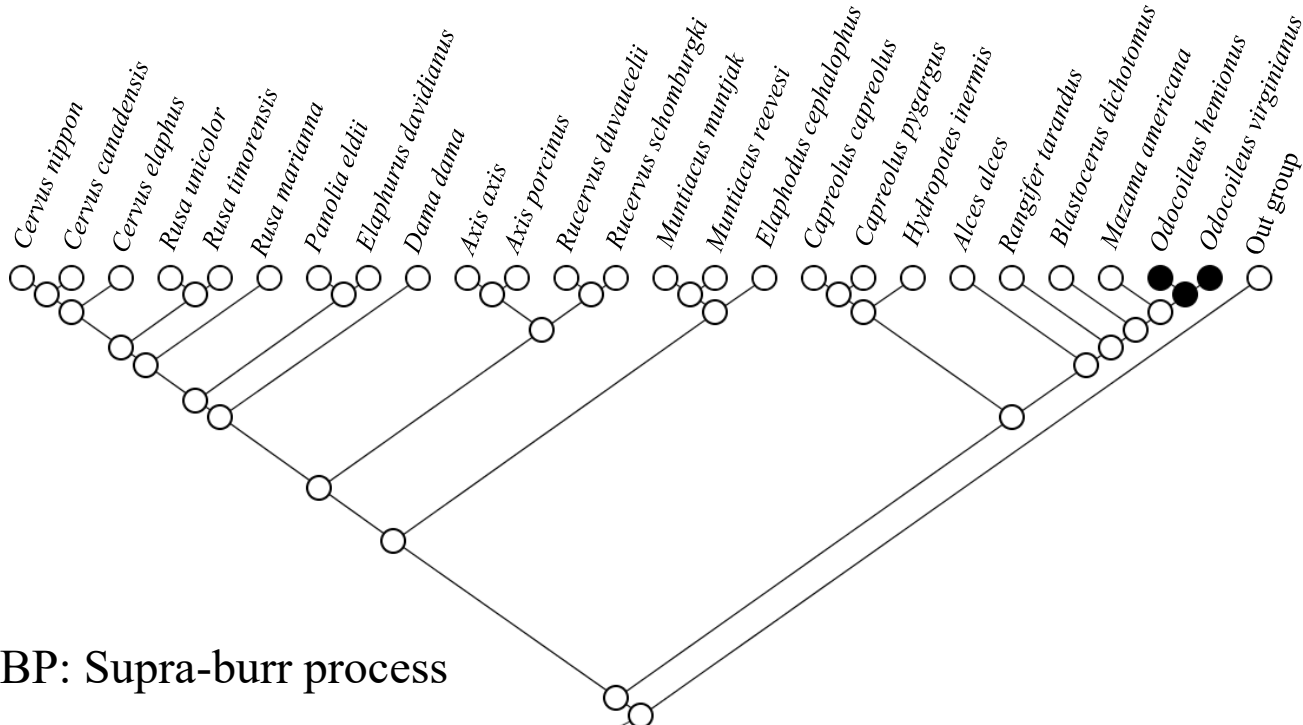


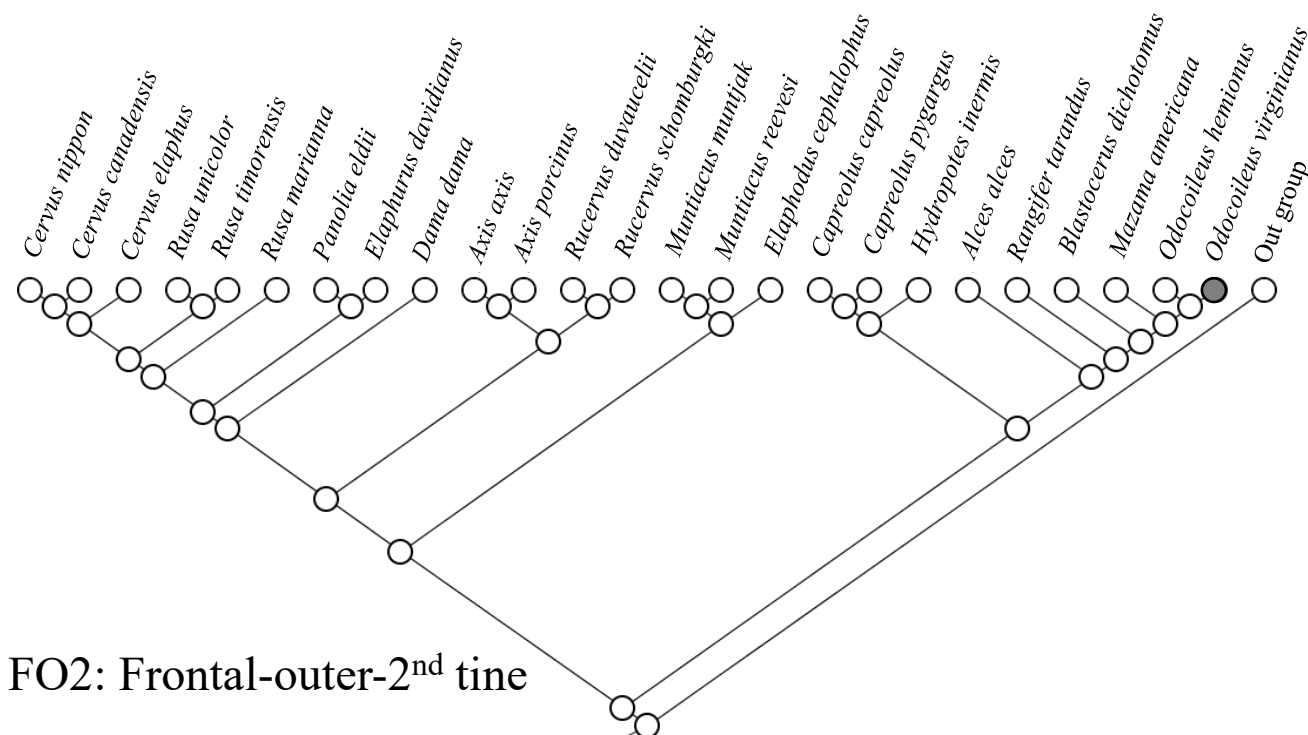
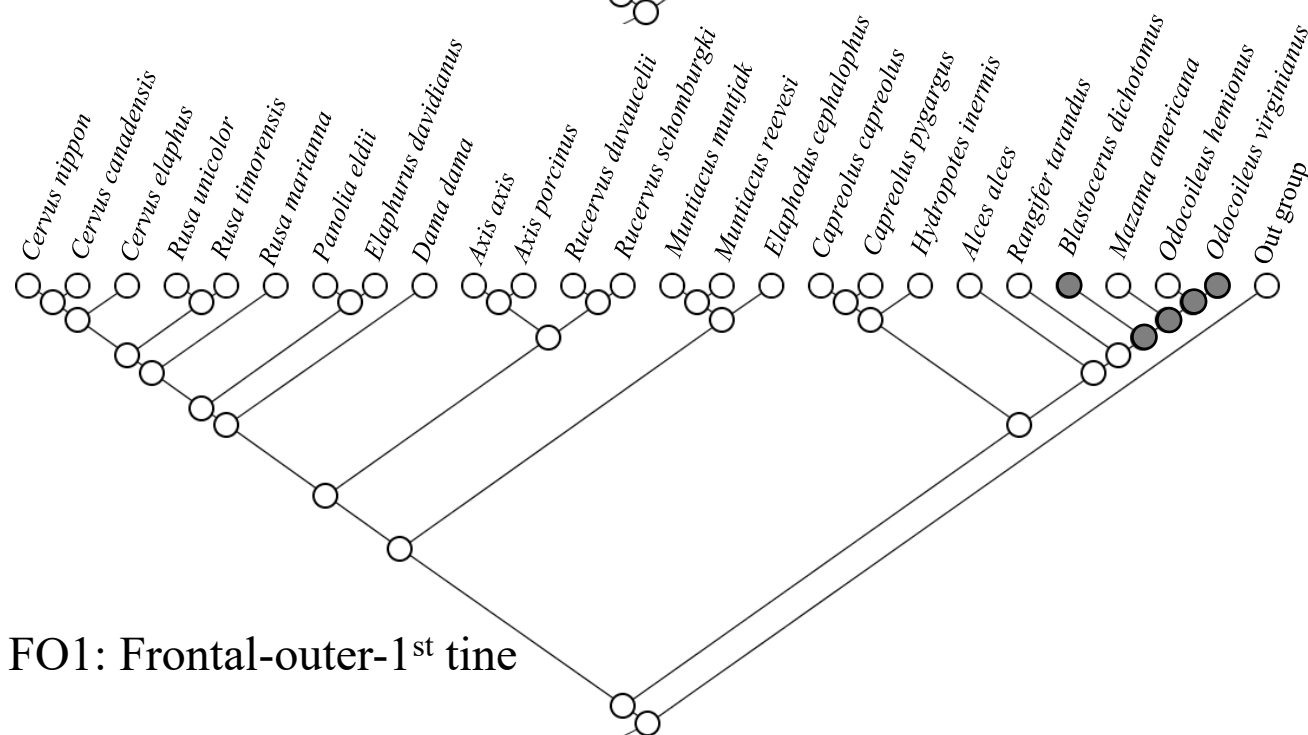
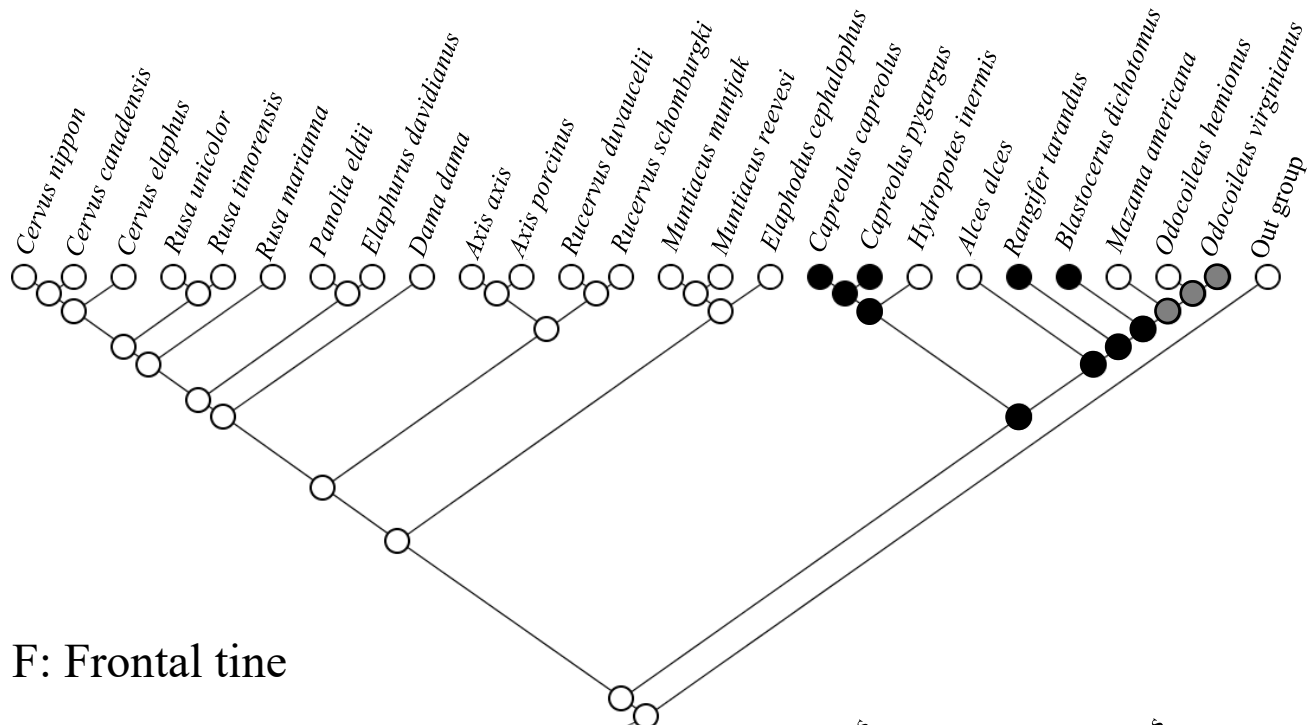
H: Higher beam



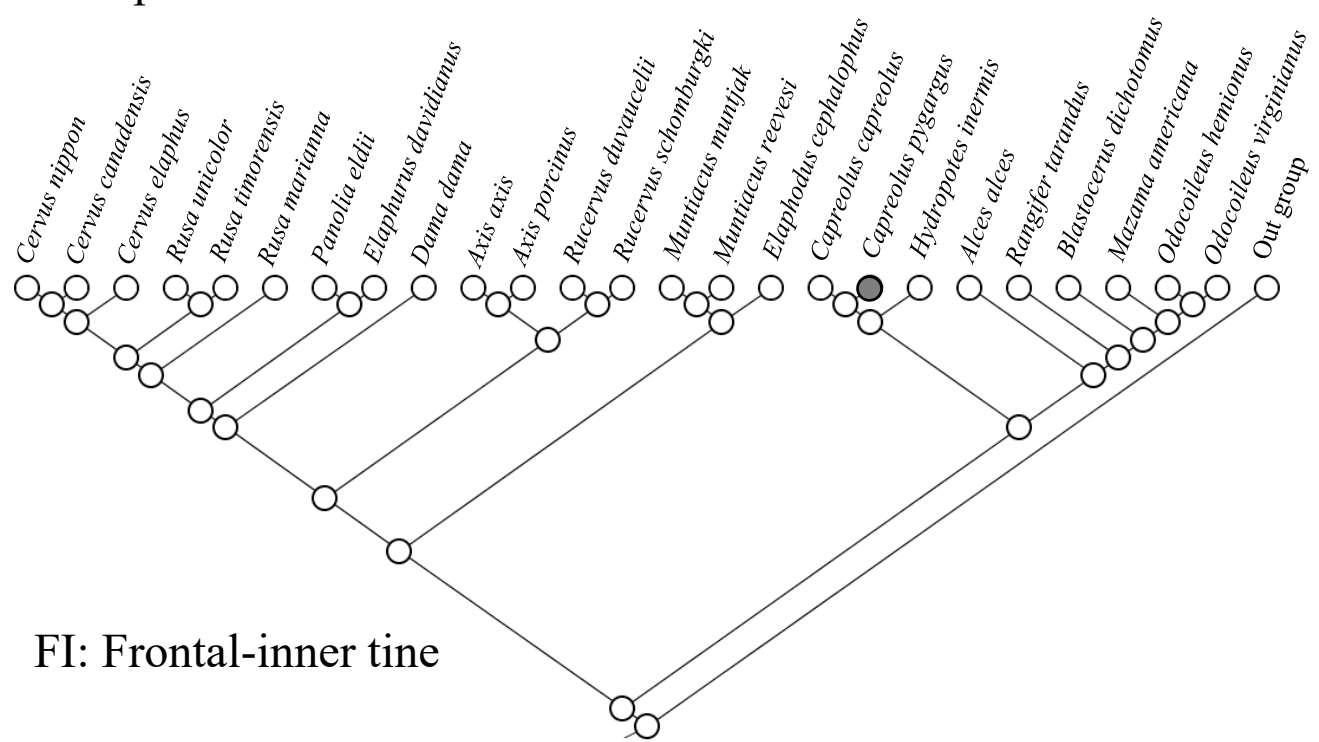
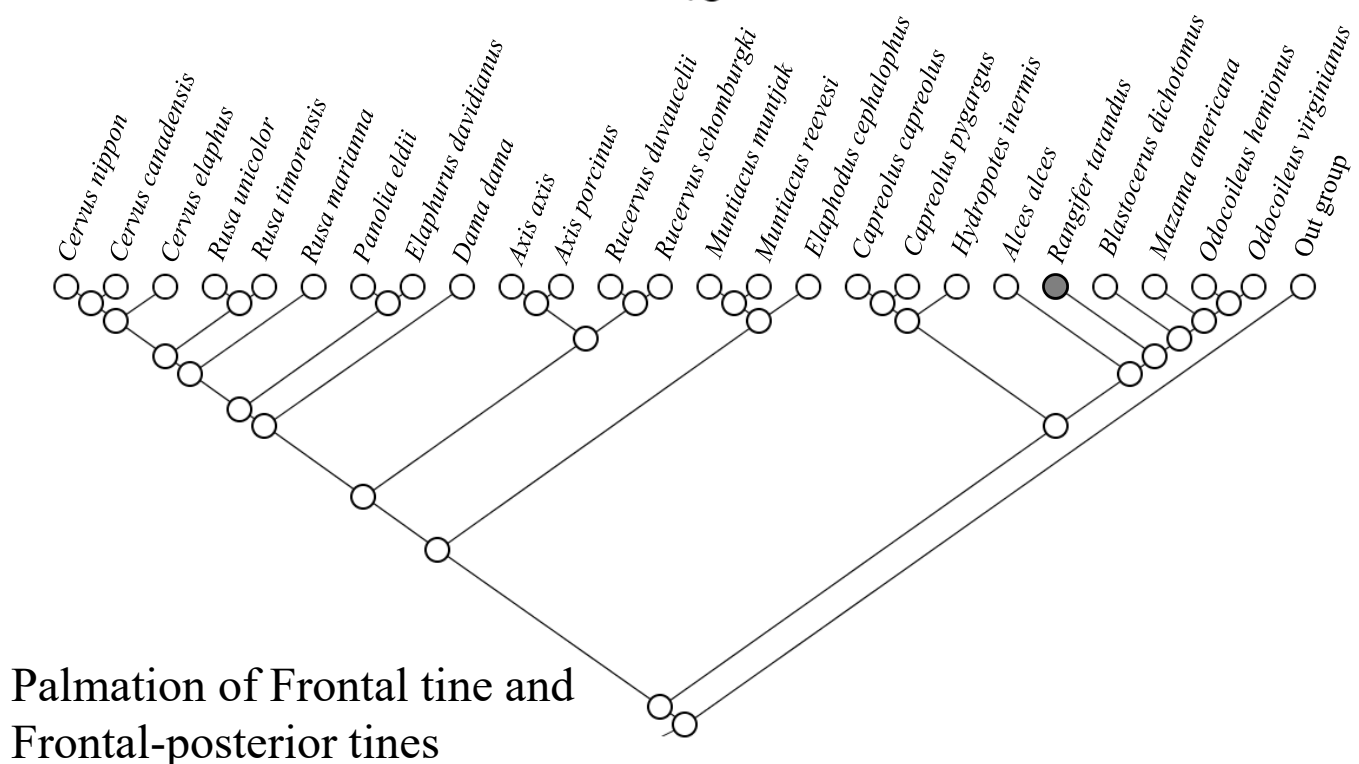
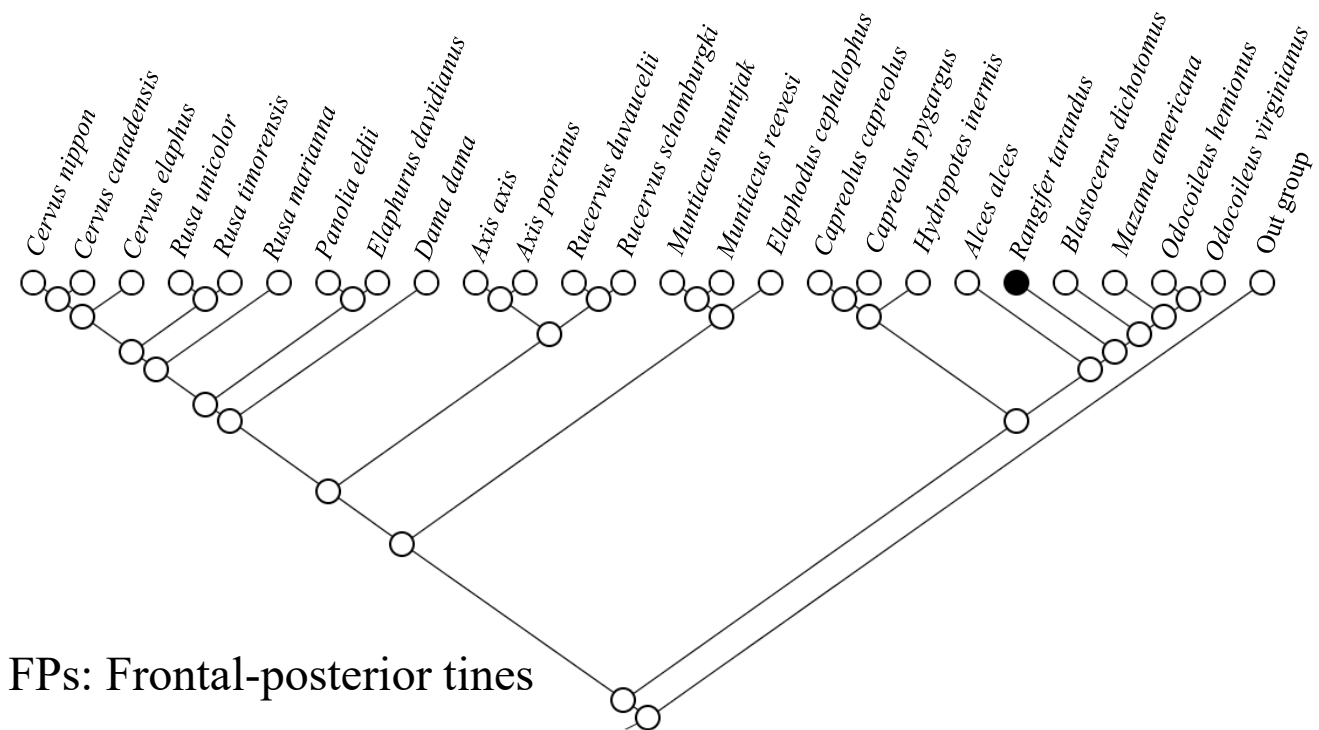


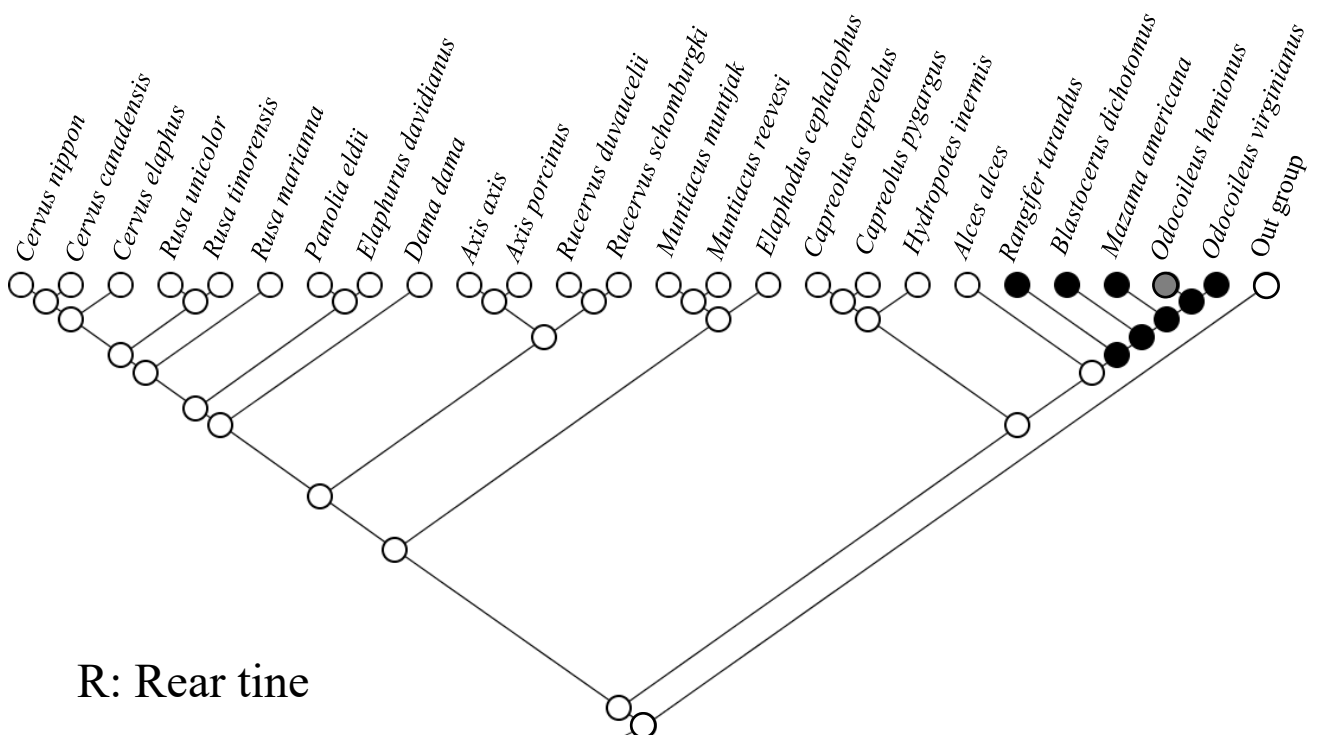
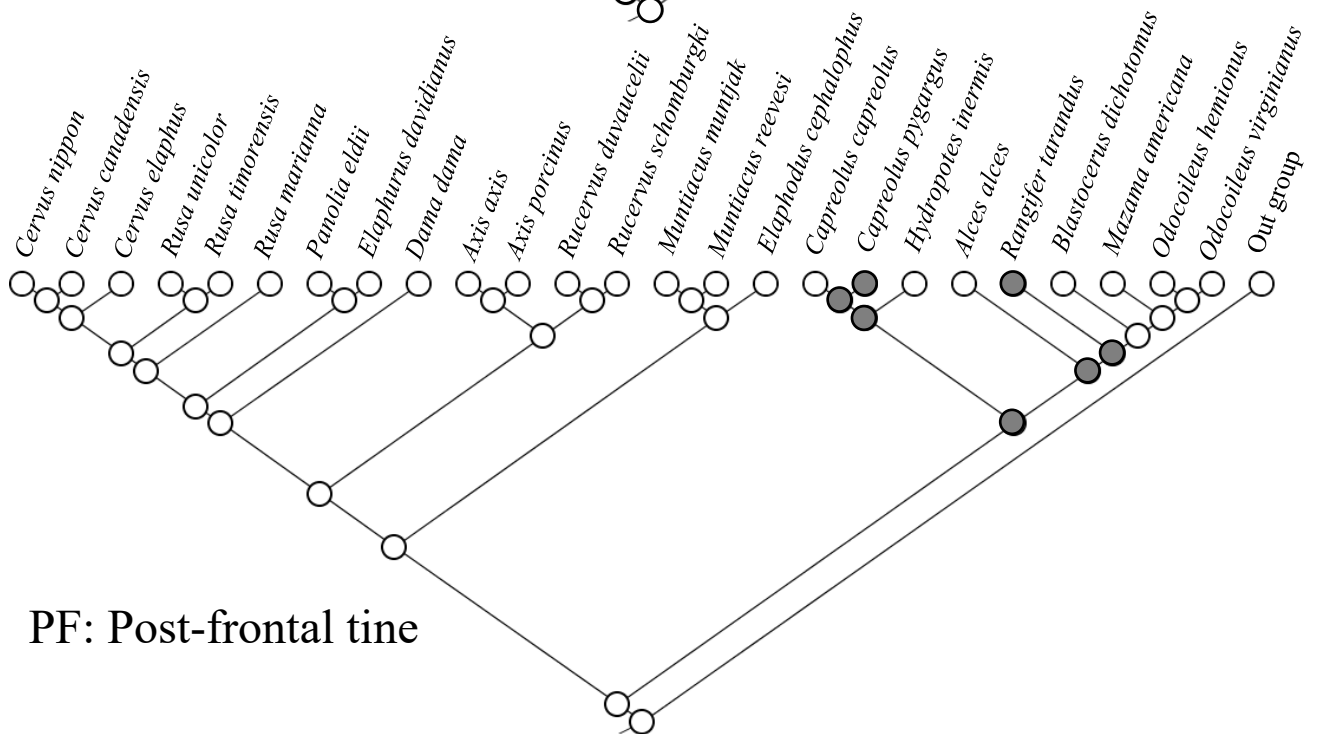
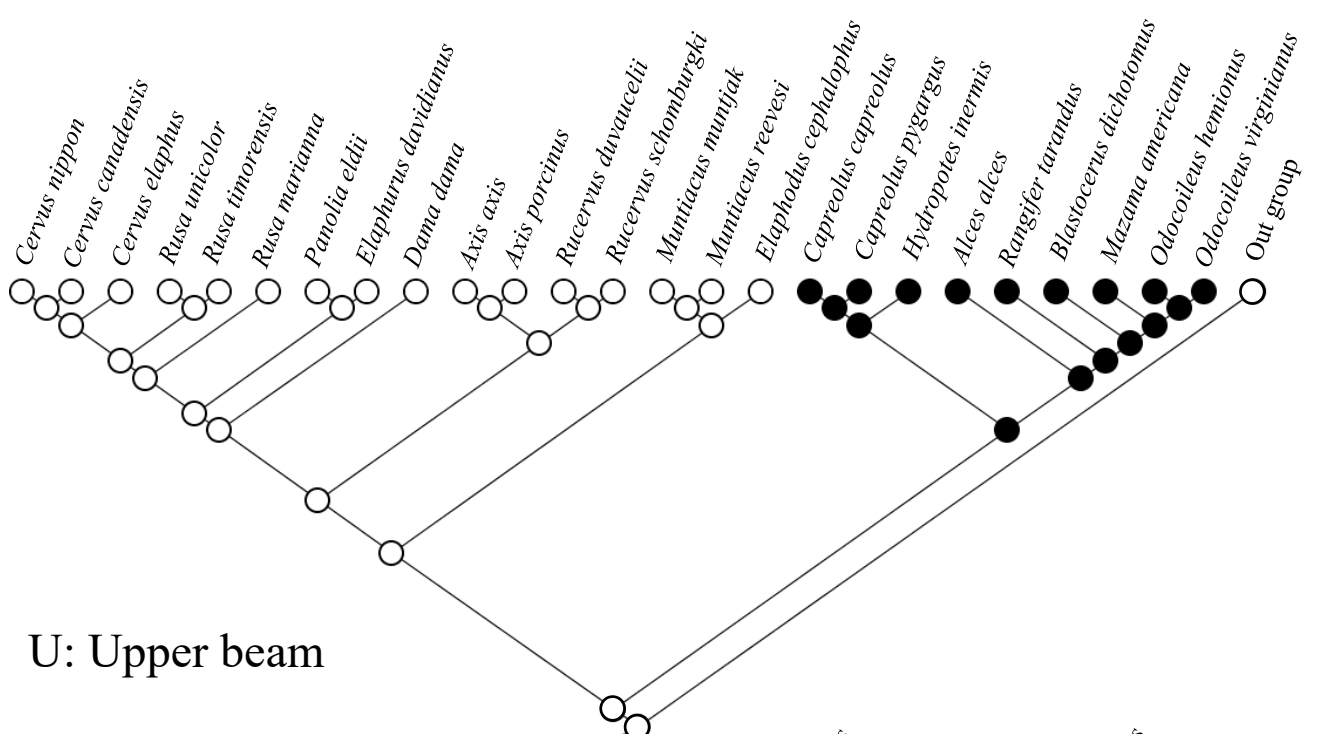




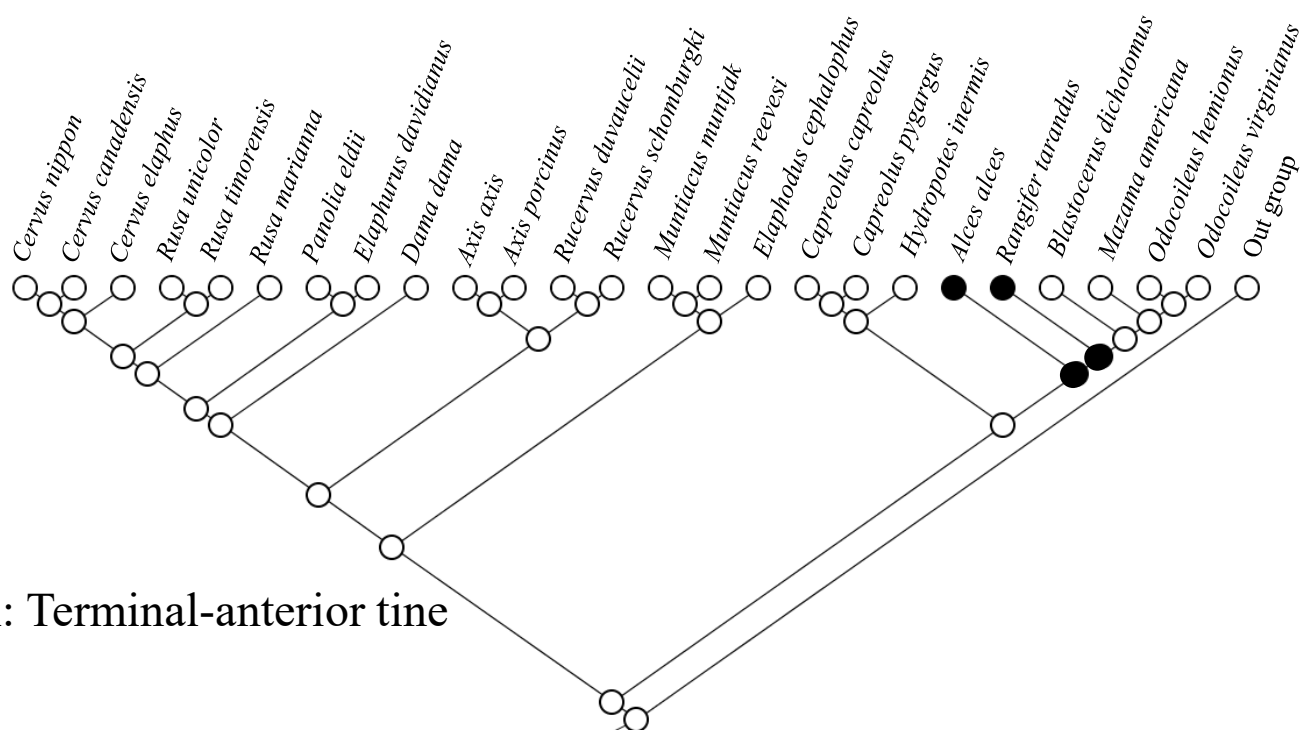




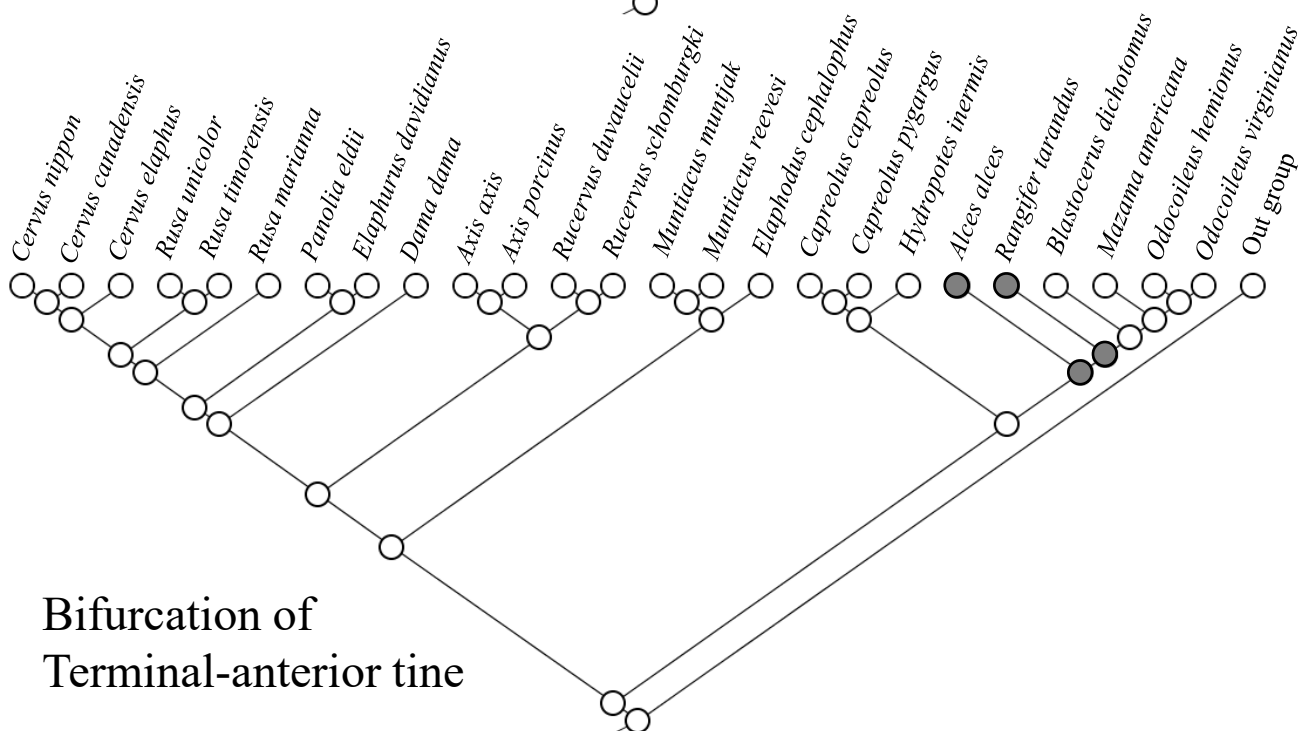




TA: Terminal-anterior tine



Bifurcation of  
Terminal-anterior time



Palmentation of  
Terminal-anterior time

