



**Appendix S9: Species tree with quartet scores** ASTRAL (Zhang et al., 2018) species tree including ingroup and outgroup for all samples (also species with multiple samples) with quartet scores (QS). The quartet scores are included as pies on each node. Red = main topology, turquoise = alternative topology, grey = second alternative topology.

### References:

Zhang, C., Rabiee, M., Sayyari, E., & Mirarab, S. (2018). ASTRAL-III: polynomial time species tree reconstruction from partially resolved gene trees. *BMC Bioinformatics*, 19(Suppl 6), 153. <https://doi.org/10.1186/s12859-018-2129-y>

# Ingroup

# Outgroup