



Trees from truncated matrix with *Acorus*: These trees show that the results are essentially the same when positions that have *Acorus* data missing are removed. The first row using the ML HKY85 model is with 4 rate categories and parameters estimated as described in Methods. The third row uses the ML model parameters calculated as in the first row to calculate a distance matrix to be used with NJ. For comparison the corresponding bootstrap values for *Amborella* sister to the angiosperms in the full matrix, going across each row, are 1. (99 vs. 100, 100 vs. 100) 2. (NA but same topology and similar BS, 100 vs. 100) 3. (86 vs. 88, 84 vs. 90).