

**Maximum likelihood tree (Klimov & O'Connor, 2013) time-calibrated using mite fossils in TreePL**  
 (age estimates given as medians, node bars are 95% HPD intervals calculated from 1000 TreePL replicates)

**Fossil time calibration points (minimum clade ages)**

- 1 *Achaearaeus dubini* (Alicornidae): 410.0 Mya
- 2 *Palaeeophychonius jerani* (Euarthronata): 326–330 Mya
- 3 *Achipteria obscura* (Achtipetidae): 153–145 Mya

**Putative co-phylogeographic events for passerine hosts of proctophylloid feather mites**

- 1 node number
- 2 node number, position approximated

