



Figure S1 Loss of *rpl33* coding region in plastomes of *Comastoma pulmonarium* and *Swertia hispidicalyx*. There is a stop codon in coding region of *rpl33* in *Comastoma pulmonarium* due to the change of cytosine (C) to thymine (T) at 22bp, and a small deletion containing the coding region of *rpl33* between the *psaJ* and *rps18* gene in the plastome of *Swertia hispidicalyx*.

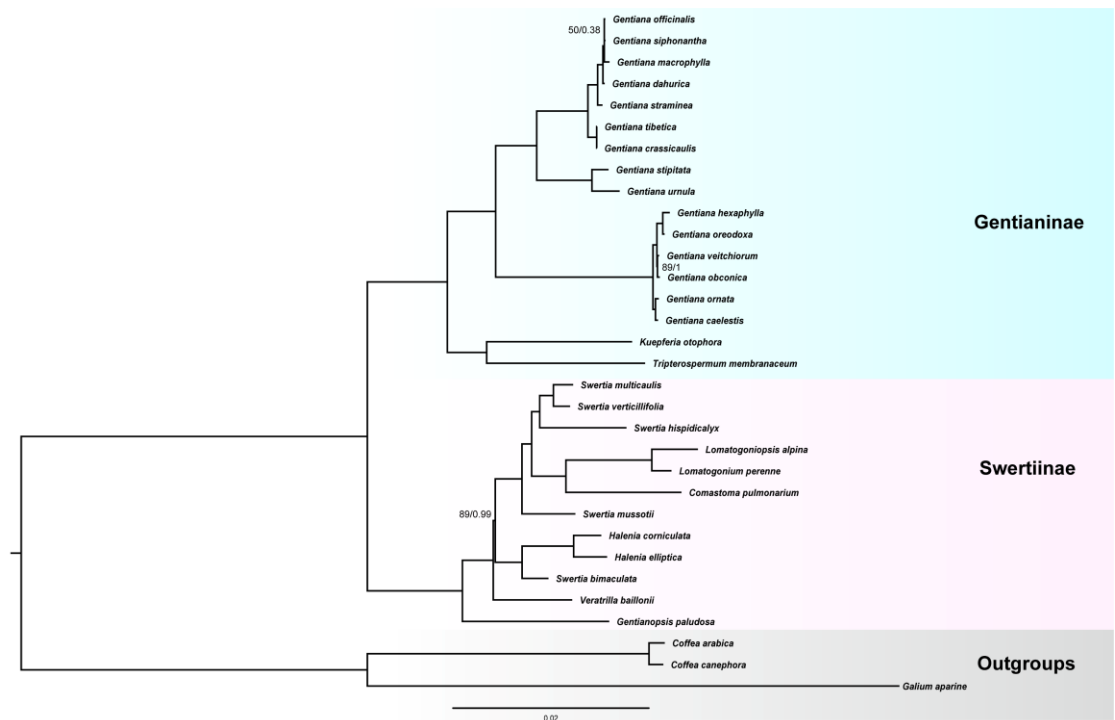


Figure S2 Maximum likelihood phylogram of Gentianeae from unpartitioned concatenated matrix of 76 plastid protein-encoding genes using RAxML. Maximum likelihood bootstrap (BS) values and the PP calculated from MrBayes are shown at nodes, except nodes with 100% BS and 1.0 PP.

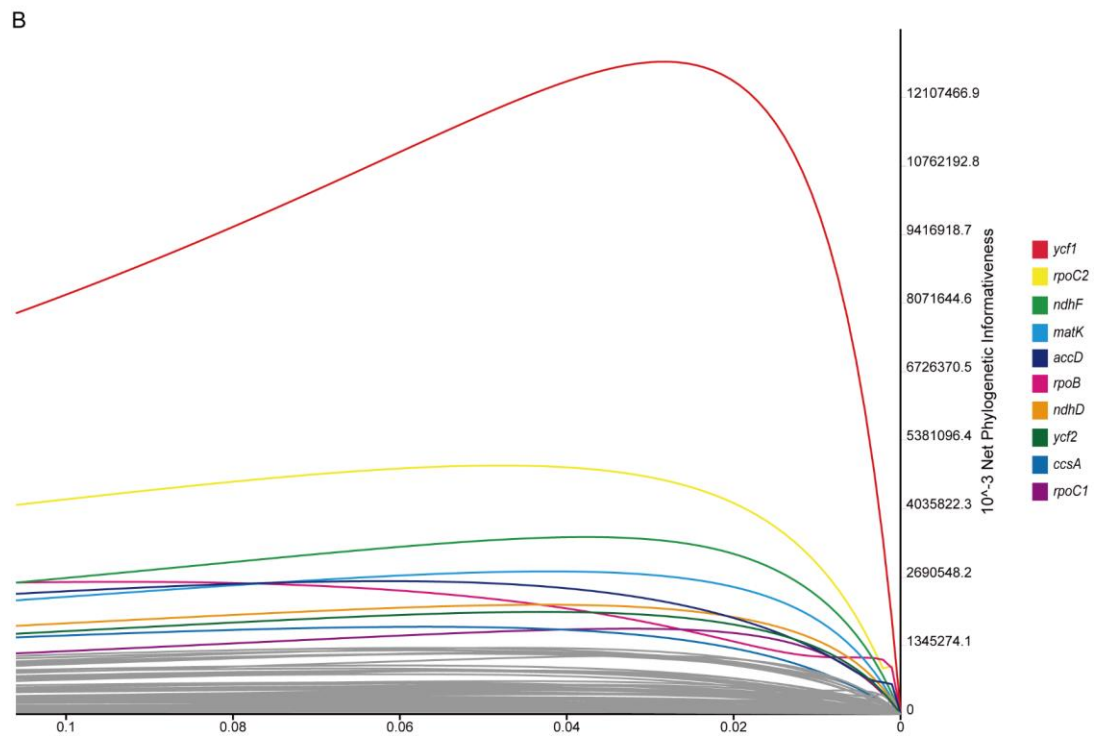
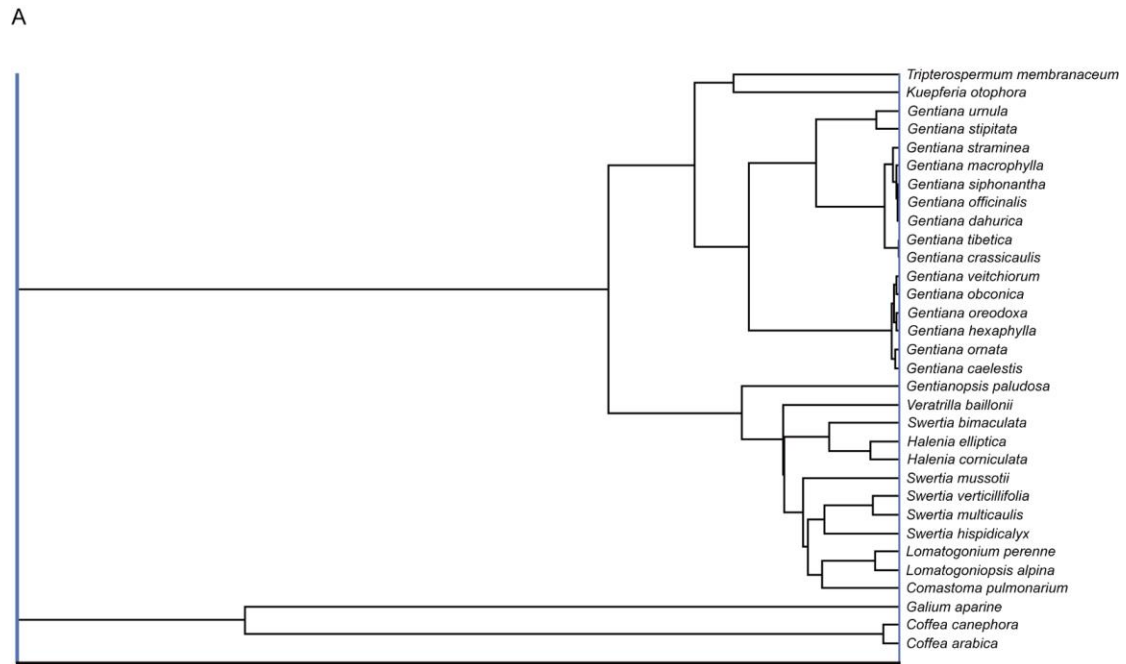


Figure S3 Phylogenetic informativeness profile estimated in PhyDesign. (A) The ultrametric tree of Gentianeae. (B) Net phylogenetic informativeness profile for 76 plastid protein-coding genes. Ten genes with the greatest informativeness are color-coded and indicated at the right. X- and Y-axes represent relative-time and net phylogenetic informativeness, respectively.