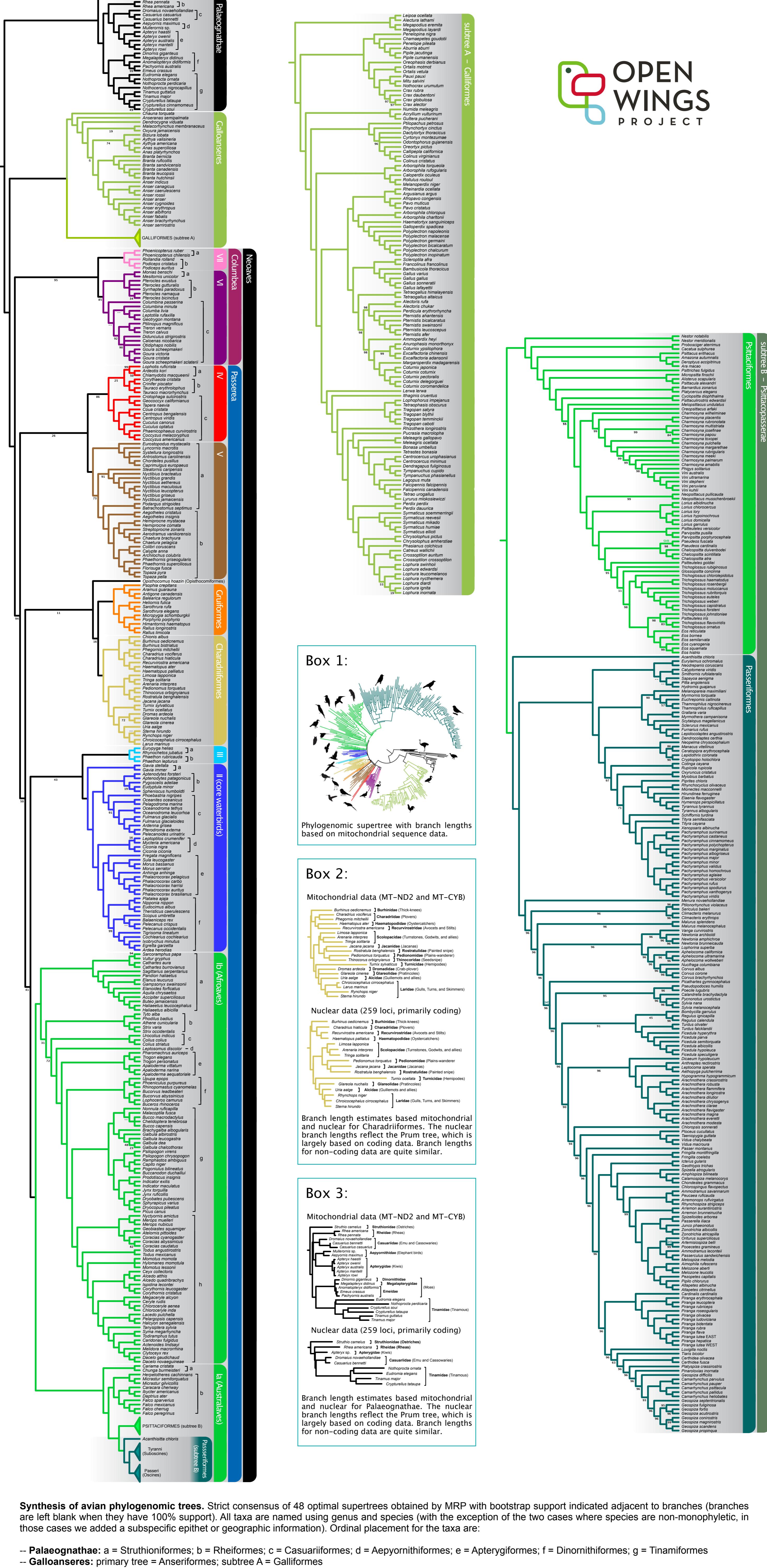


OpenWings Phylogenomic Supertree

(2019 version)



d = Leptosomiformes; e = Trogoniformes; f = Bucerotiformes; g = Piciformes; h = Coraciiformes); **clade II** (a = Gaviiformes; b = Sphenisciformes; c = Procellariiformes; d = Ciconiiformes; e = Suliformes; f = Pelecaniformes); **clade III** (a = Eurypygiformes; b = Phaethontiformes); **clade IV** (a = Otidiformes; b = Musophagiformes; c = Cuculiformes); **clade V** (a = Caprimulgiformes [not monophyletic]; b = Apodiformes); **clade VI** (a = Mesitornithiformes; b = Pterocliformes; c = Columbiformes); **clade VII** (a = Rheoniticertiformes; b = Podicipediformes); the three "orphan orders" (Charadriiformes, Gruiformes, and Opisthomacromiiformes) are indicated on the tree.

Citation: Kimball, R.T.; Oliveros, C.H.; Wang, N.; White, N.D.; Barker, F.K.; Field, D.J.; Ksepka, D.T.; Chesser, R.T.; Moyle, R.G.; Braun, M.J.; Brumfield, R.T.; Faircloth, B.C.; Braun, E.L. A phylogenomic (super) tree of birds (with lessons for other organisms). *Diversity* **2019**, *in review*.