

**Table S1.** Estimated divergence dates for given clades of the avian phylogenetic tree for the temporally-calibrated ancestral state reconstructions.

Clade	Divergence date	Source
<i>Eudromia</i> + <i>Dromaius</i>	45	Kuhl et al. [38]
<i>Apteryx</i> + <i>Dromaius</i>	50	Kuhl et al. [38]
<i>Rhea</i> + <i>Dromaius</i>	51	Kuhl et al. [38]
<i>Struthio</i> + <i>Dromaius</i>	58	Kuhl et al. [38]
<i>Coturnix</i> + <i>Synoicus</i>	18	TimeTree [40]
<i>Coturnix</i> + <i>Gallus</i>	20	Prum et al. [37]
<i>Gallus</i> + <i>Meleagris</i>	32	TimeTree [40]
<i>Anas</i> + <i>Somateria</i>	20	TimeTree [40]
<i>Anas</i> + <i>Cairina</i>	23	TimeTree [40]
<i>Larus</i> + <i>Chroicocephalus</i>	6	TimeTree [40]
<i>Larus</i> + <i>Sterna</i>	16	Kuhl et al. [38]
<i>Larus</i> + <i>Stercorarius</i>	22	Kuhl et al. [38]
<i>Corvus</i> + <i>Taeniopygia</i>	34	Kuhl et al. [38]
<i>Corvus</i> + <i>Myiopsitta</i>	62	Kuhl et al. [38]
Neoaves	69	Kuhl et al. [38]
Galloanserae	63	Kuhl et al. [38]
Neognathae	81	Kuhl et al. [38]
Neornithes	94	Kuhl et al. [38]