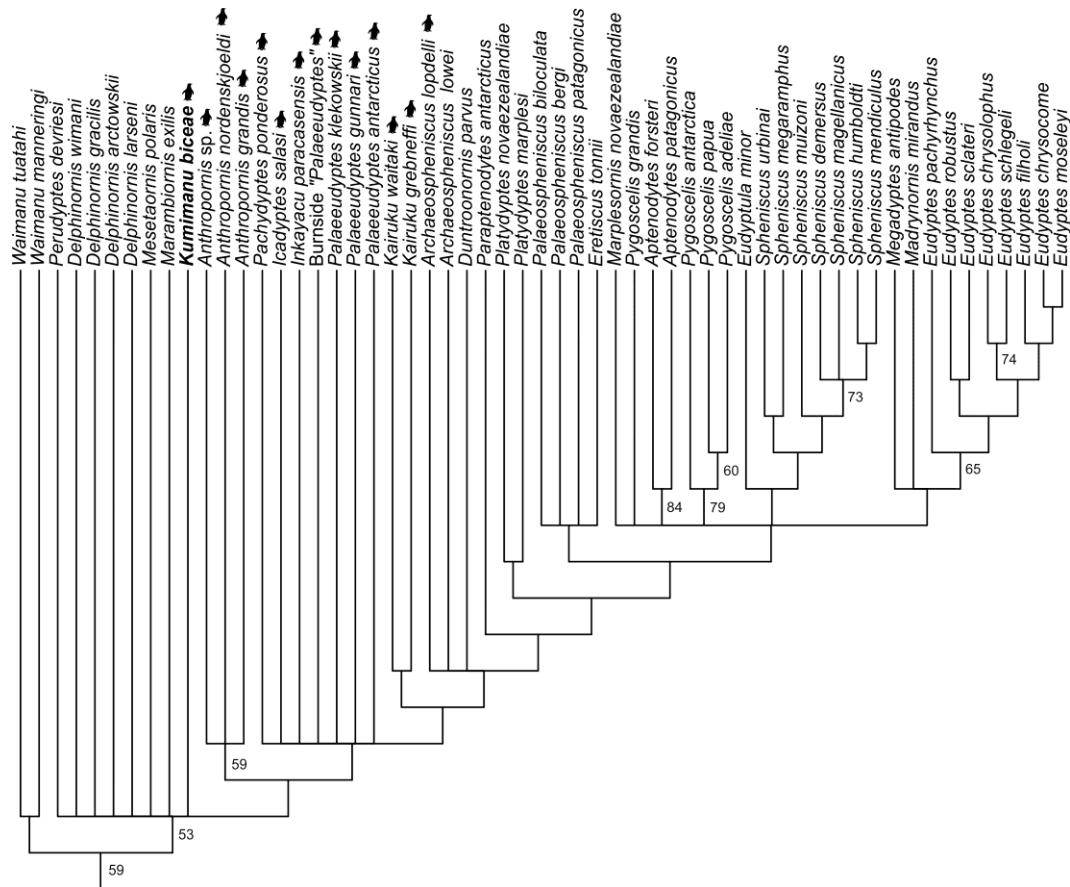


Supplementary Information



Supplementary Fig. 1 Strict consensus tree of 10000 most parsimonious tree resulting from the phylogenetic analysis of the primary data set with all taxa included ($L = 614$, $CI = 0.58$, $RI = 0.90$). Bootstrap support values (majority rule consensus) are indicated next to the internodes, unsupported nodes were collapsed. The penguin icons denote giant taxa with a size exceeding that of the Emperor Penguin.