Supplementary Information for:

Evolution of tooth morphological complexity and its association with the position of tooth eruption in the jaw in non-mammalian synapsids

Hadrocodium wui
Haldanodon exspectatus
Morganucodon
Sinoconodon
Brasilodon quadrangularis
Yunnanodon
Bocatherium
Kayentatherium
Oligokyphus major
Pseudotherium argentinus
Pachygenelus
Probainognathus jenseni
Chiniquodon
Lumkuia fuzzi
Exaeretodon riograndensis
Dadadon isaloi
Massetognathus ochagaviae
Pascualgnathus polanskii
Andescynodon mendozensis
Diademodon tetragonus
Cynognathus
Thrinaxodon liorhinus
Procynosuchus delaharpeae
Dvinia prima
Bauria cynops
Ericiolacerta parva
Karenites ornamentatus
Ictidosuchops intermedius
Theriognathus
Viatkosuchus sumini
Moschorhinus kitchingi
Annatherapsidus petri
Glanosuchus
Rubidgea atrox
Clelandina rubidgei
Dinogorgon rubidgei
Leontosaurus vanderhorsti
Sycosaurus laticeps
Sycosaurus nowaki
Ruhuhucerberus haughtoni
Aelurognathus tigriceps
Smilesaurus ferox
Arctognathus
Gorgonops torvus
Inostrancevia alexandri
Sauroctonus progressus
Dicynodon
Eodicynodon oosthuizeni
Suminia getmanovi
Ulemosaurus svijagensis
Jonkeria
Estemmenosuchus uralensis
Styracocephalus platyrhynchus
Anteosaurus
Biarmosuchus spp
Dimetrodon limbatus
Tetraceratops insignis
Edaphosaurus boanerges
Cotylorhynchus romeri
Euromycter rutenus

Dentition position relative to the anterior end of palatine

-1.135 to -0.945
-0.945 to -0.755
-0.755 to -0.565
-0.565 to -0.376
-0.376 to -0.186
-0.186 to 0.004
0.004 to 0.194
0.194 to 0.383
0.383 to 0.573
0.573 to 0.763
0.763 to 0.952

Change in tooth complexity level

○ Unambiguous increase

△ Possible increase
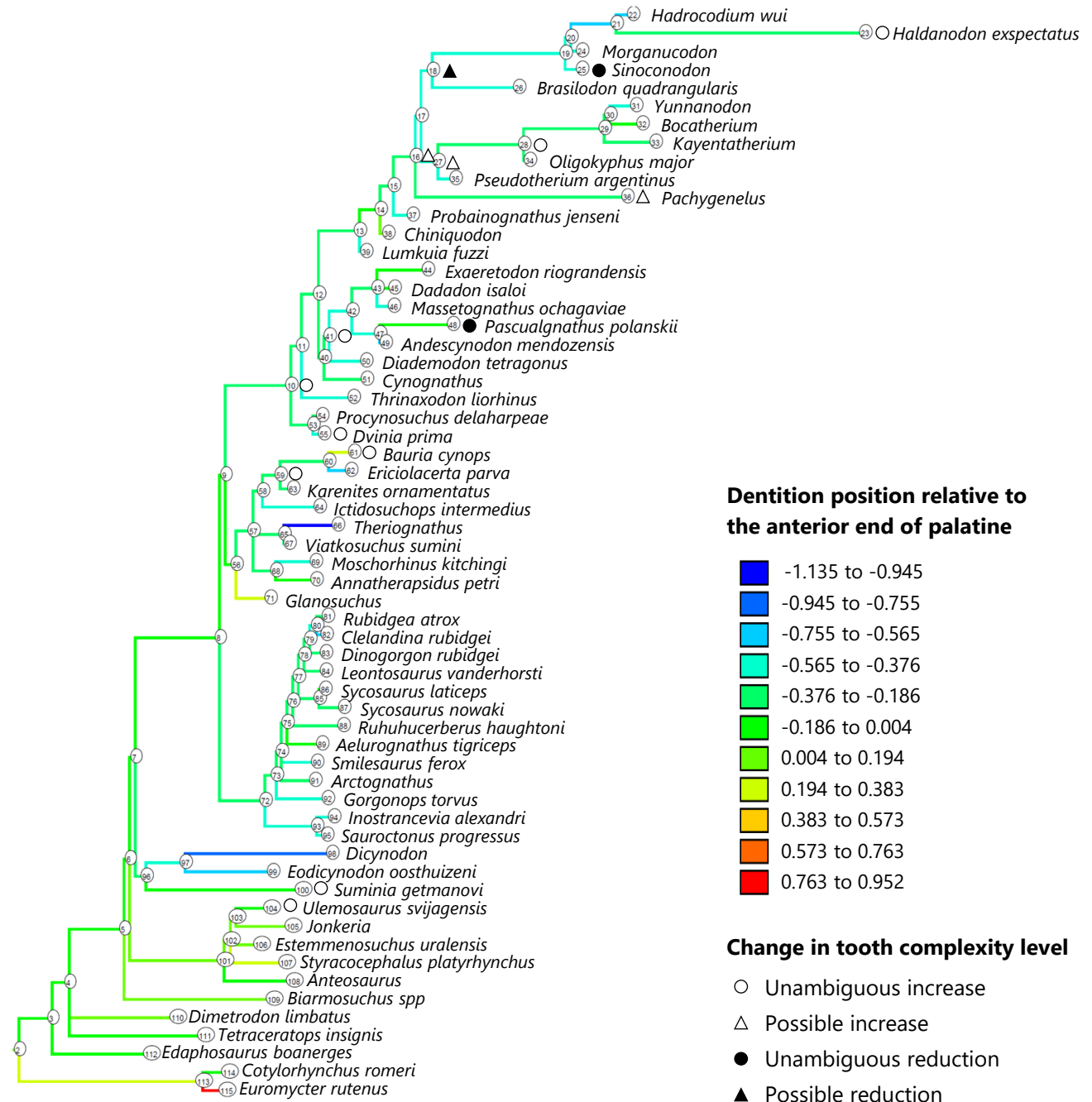
● Unambiguous reduction

▲ Possible reduction

Figure S2 Evolutionary history of the dentition position relative to the anterior end of palatine on the phylogenetic tree of non-mammalian synapsids.

This position was calculated as residuals from the PGLS regression of the length to post-dentition on the length to ante-palatine. The definitions of positions and length measurements are presented in Figure 2. The statistics of the regression are presented in Table S1a. The branches are colored according to the ancestral state reconstructions using parsimony methods. The open circles represent nodes of unambiguous increased tooth complexity, the open triangles represent nodes with increased tooth complexity in one of the most likely patterns for the evolutionary history of tooth complexity, the closed circle represents a node of unambiguous reduction in tooth complexity, and the closed triangle represents a node where reduction in tooth complexity was observed in one of the most likely patterns for the evolutionary history of tooth complexity. The node numbers correspond to those of Table S2.