

Supplemental file S8 for

Phylogenetic relationships of Neogene hamsters (Mammalia, Rodentia, Cricetinae) revealed under Bayesian inference and maximum parsimony

Moritz Dirnberger¹, Pablo Peláez-Campomanes², Raquel López-Antoñanzas¹

¹ISEM, Univ Montpellier, CNRS, IRD, Montpellier, France

²Departamento de Paleobiología, Museo Nacional de Ciencias Naturales-CSIC, Madrid, Spain

Stochastic character mapping on the Bayesian inference IGR tree

The stochastic character mapping was performed on the time-calibrated tree under the IGR clock model with the R package phytools v. 2.1.1 (Revell, 2024). For each character the best-fit model regarding rates of character state change was determined based on the Akaike information criterion. For all of the here shown 22 characters, the equal rates model was preferred, except for characters 37 and 66. For these two cases the symmetrical rates model was chosen. For descriptions of the characters, see Supplemental File S2.

Reference

Revell LJ. 2024. phytools 2.0: an updated R ecosystem for phylogenetic comparative methods (and other things). *PeerJ* 12:e16505.

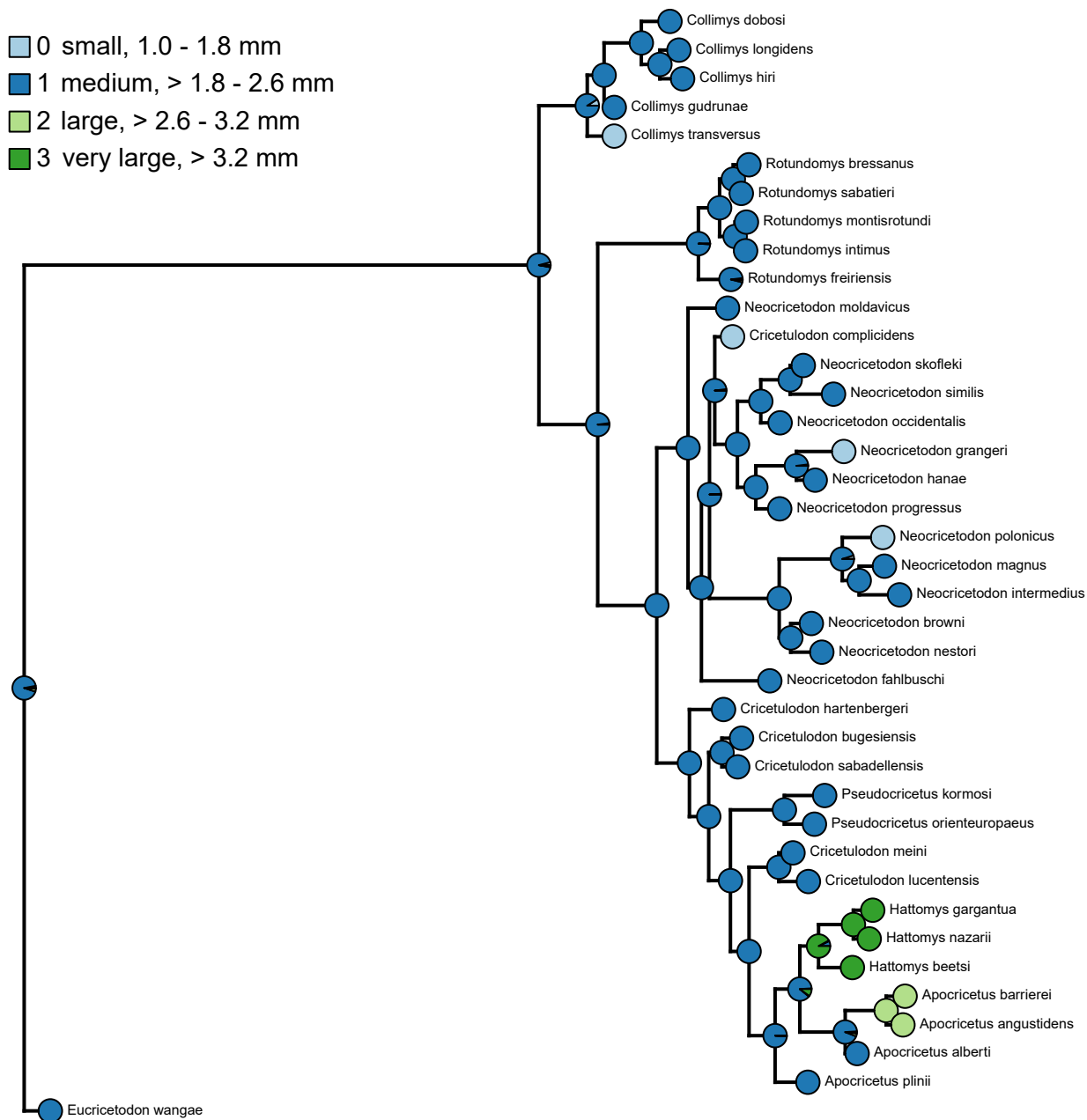
Ancestral state reconstruction of trait 1: Length of the M1

0 small, 1.0 - 1.8 mm

1 medium, > 1.8 - 2.6 mm

2 large, > 2.6 - 3.2 mm

3 very large, > 3.2 mm



Ancestral state reconstruction of trait 5: Anterocone



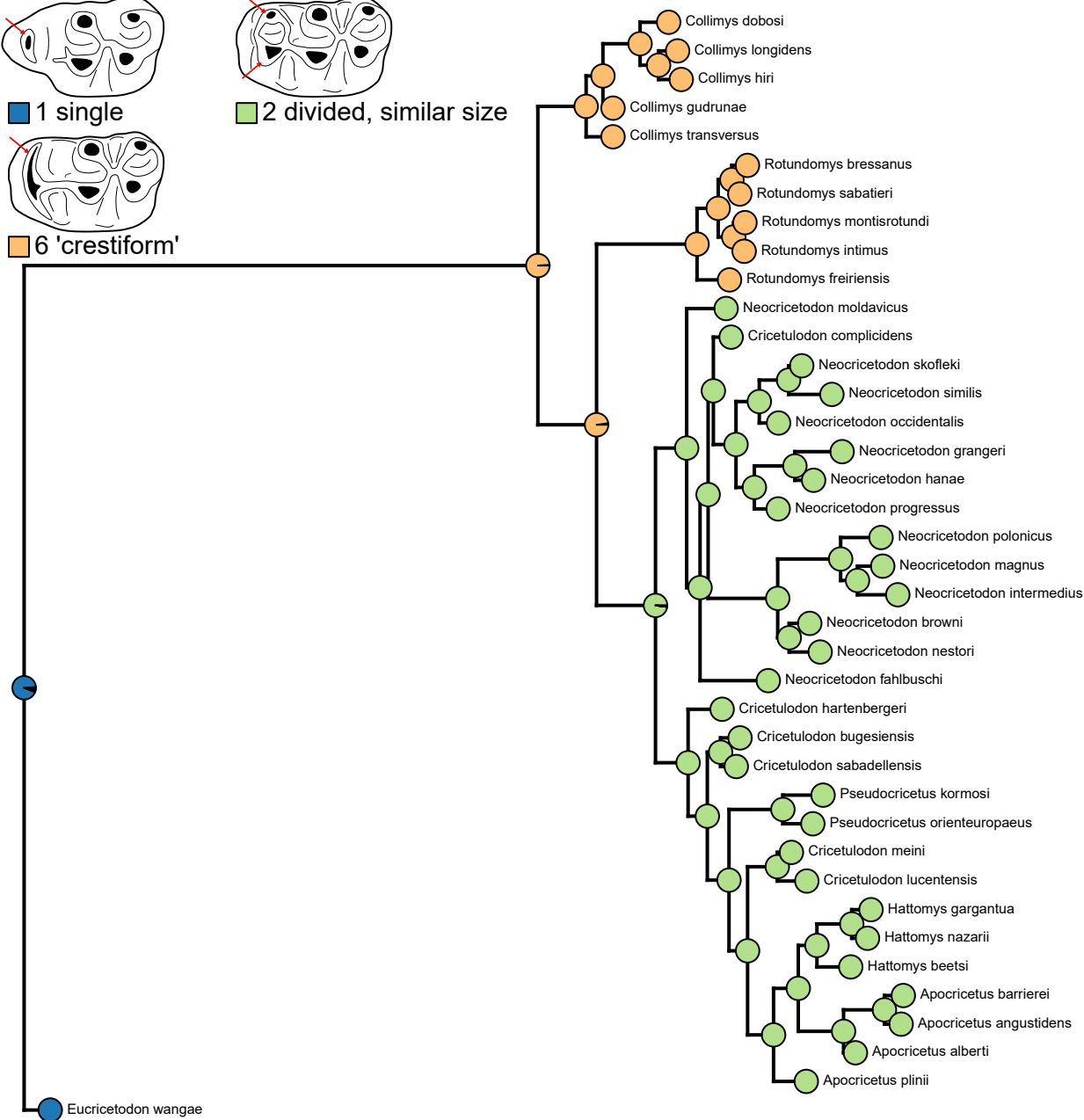
1 single



2 divided, similar size



6 'crestiform'



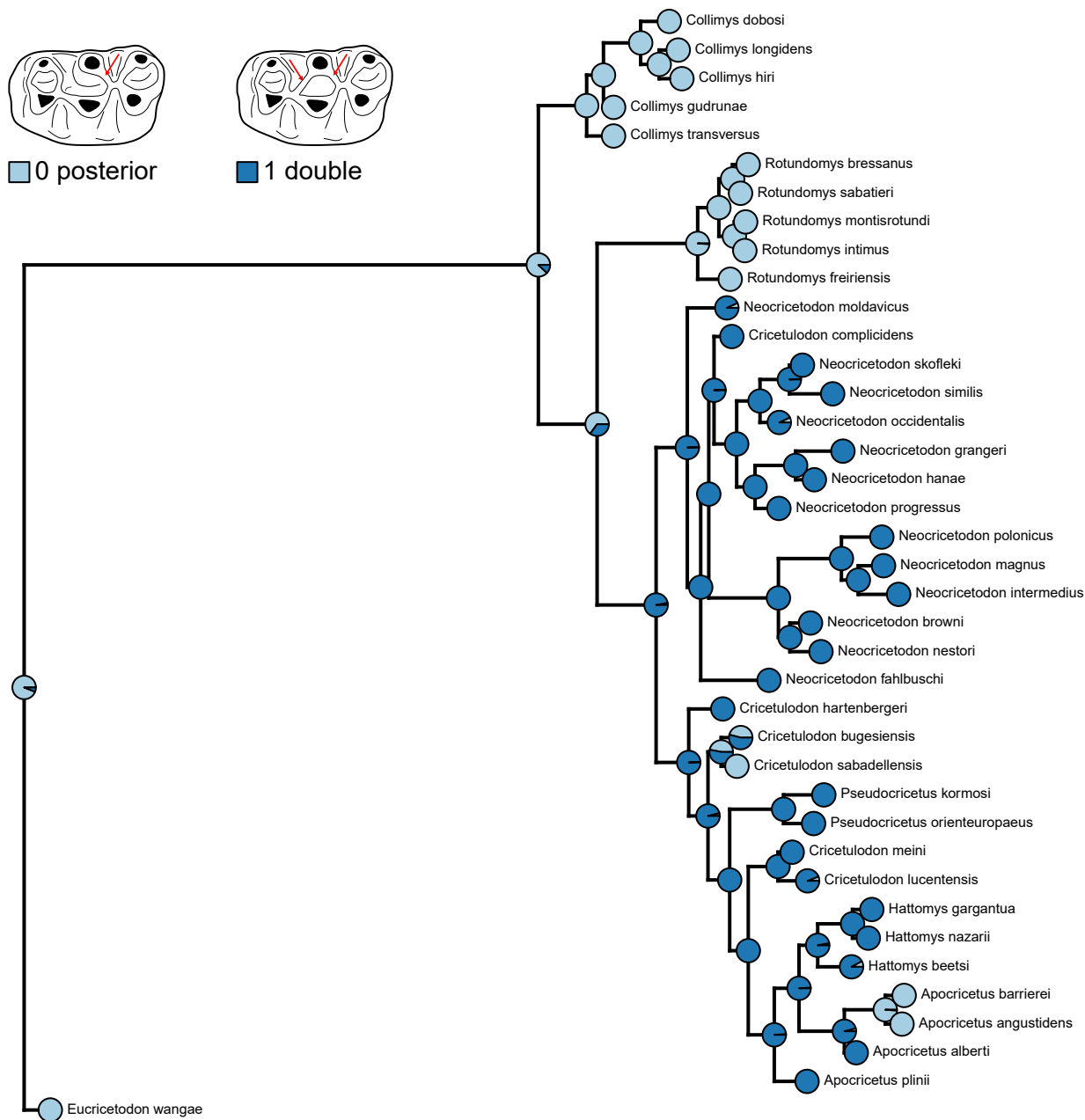
Ancestral state reconstruction of trait 7: M1 protolophule



0 posterior



1 double

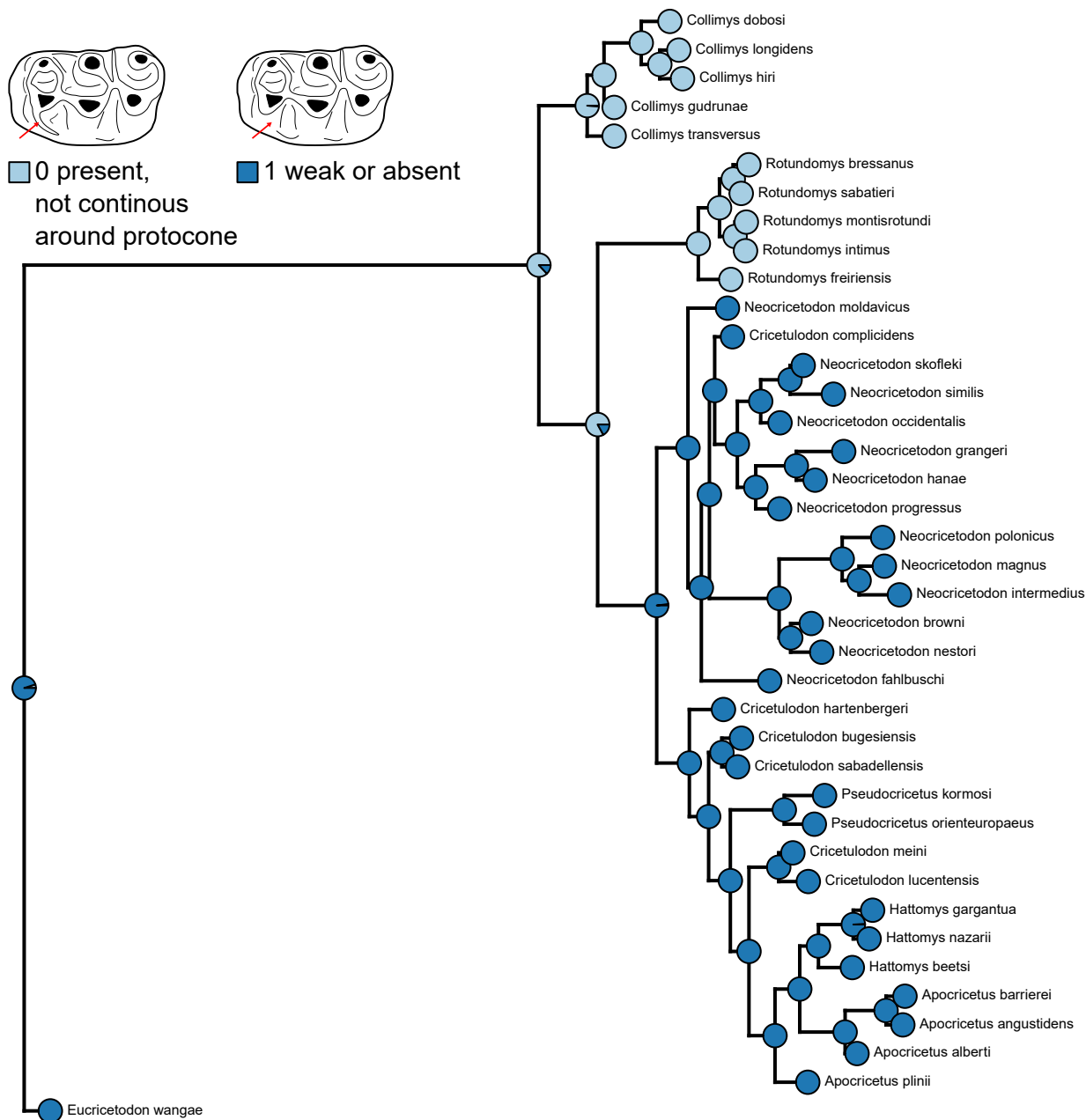


Ancestral state reconstruction of trait 11: M1 lingual anteroloph

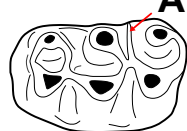


0 present,
not continuous
around protocone

1 weak or absent



Ancestral state reconstruction of trait 20: M1 mesoloph



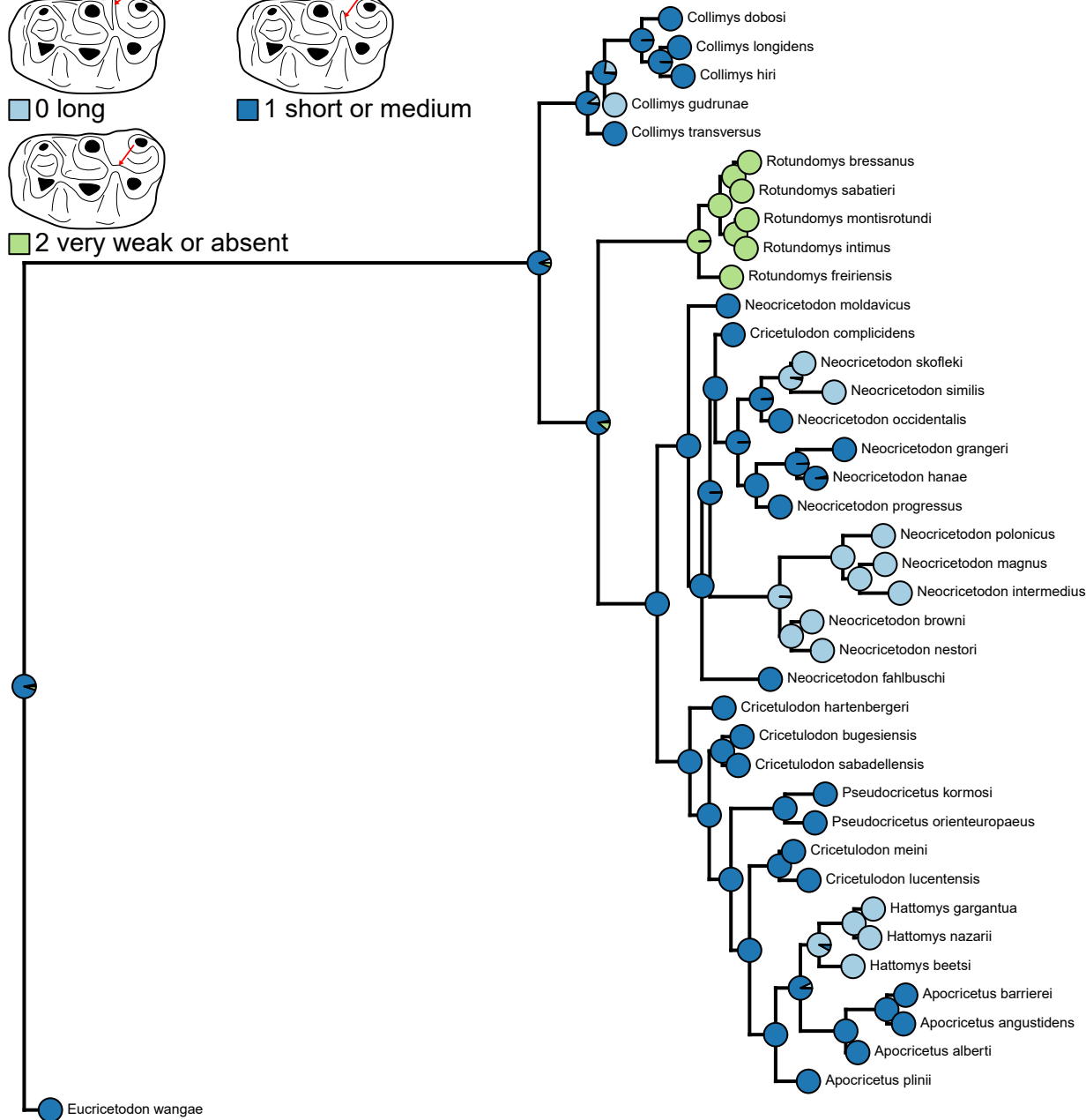
0 long



1 short or medium



2 very weak or absent



Ancestral state reconstruction of trait 26: M1 labial posteroloph



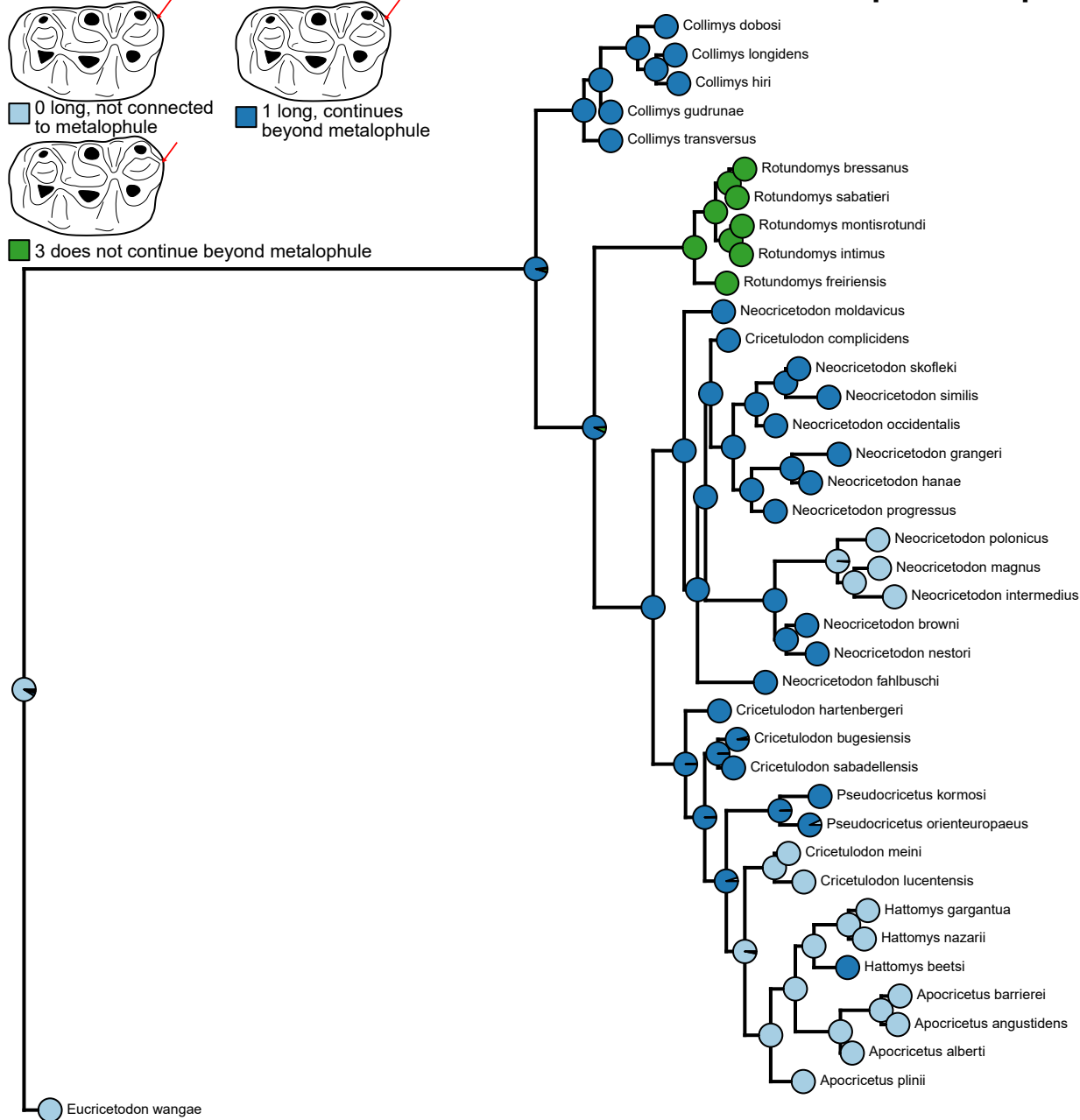
0 long, not connected to metalophule



1 long, continues beyond metalophule



3 does not continue beyond metalophule



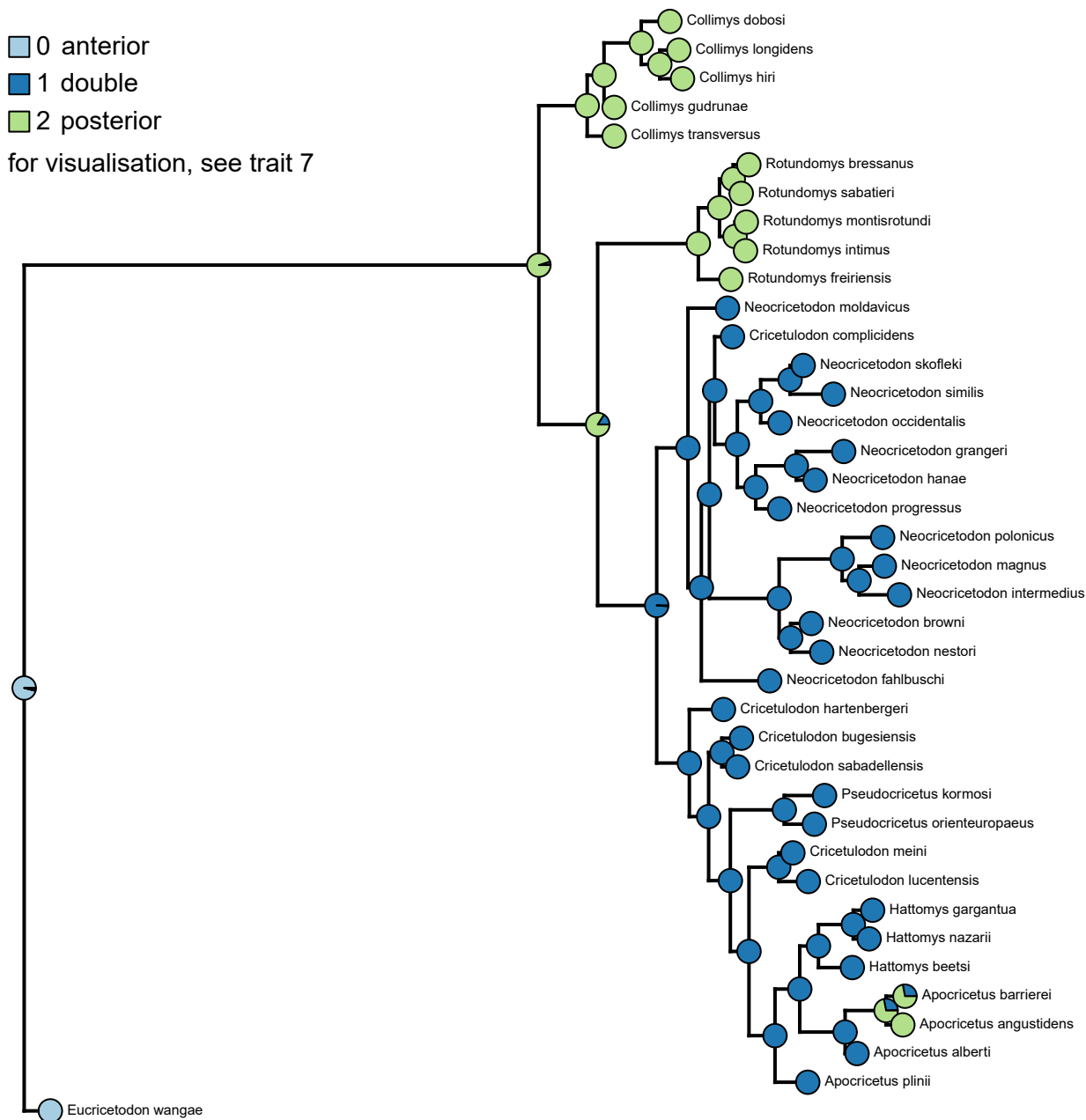
Ancestral state reconstruction of trait 34: M2 protolophule

0 anterior

1 double

2 posterior

for visualisation, see trait 7



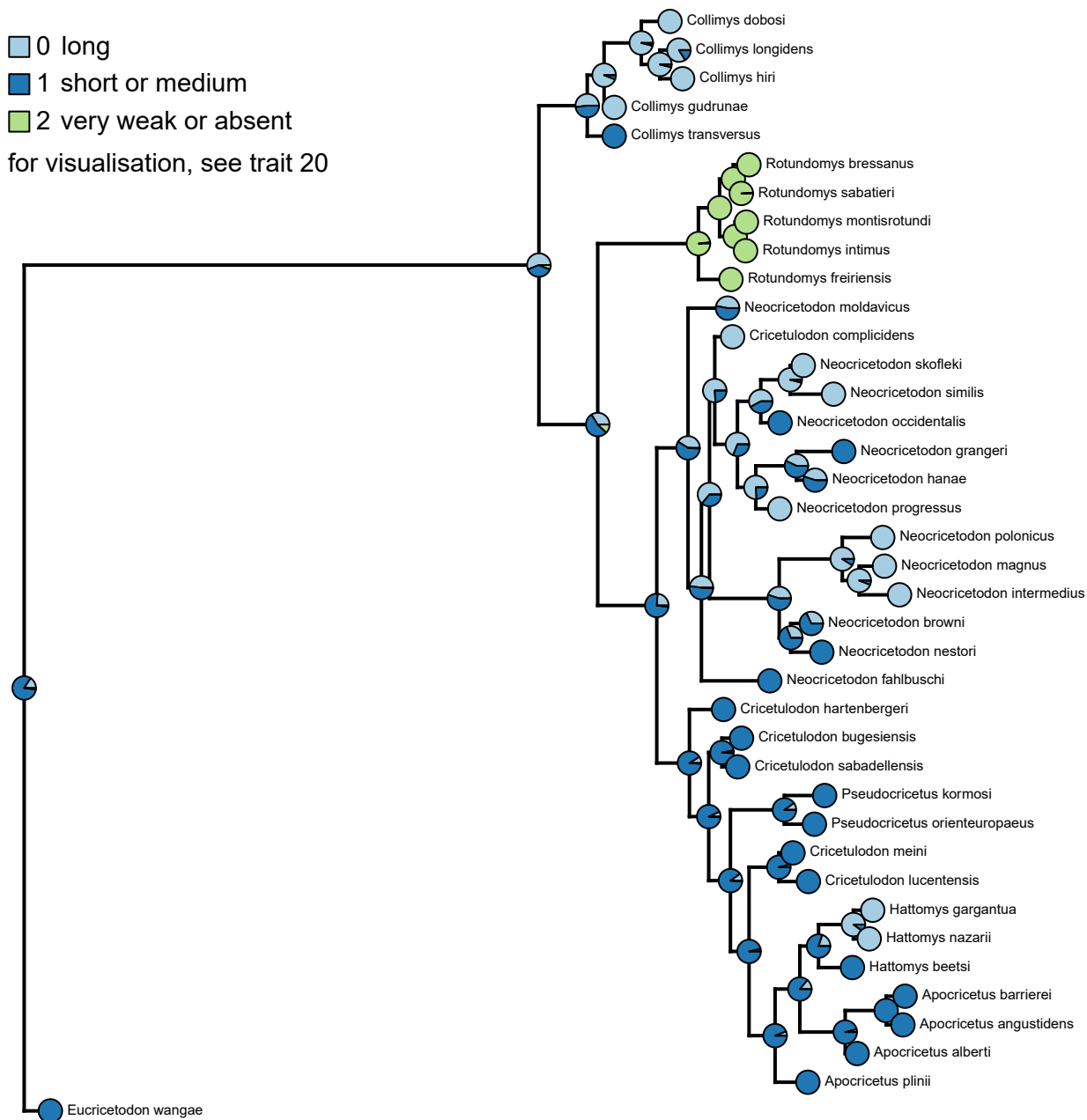
Ancestral state reconstruction of trait 37: M2 mesoloph

0 long

1 short or medium

2 very weak or absent

for visualisation, see trait 20



Ancestral state reconstruction of trait 38: M2 metalophule



0 anterior



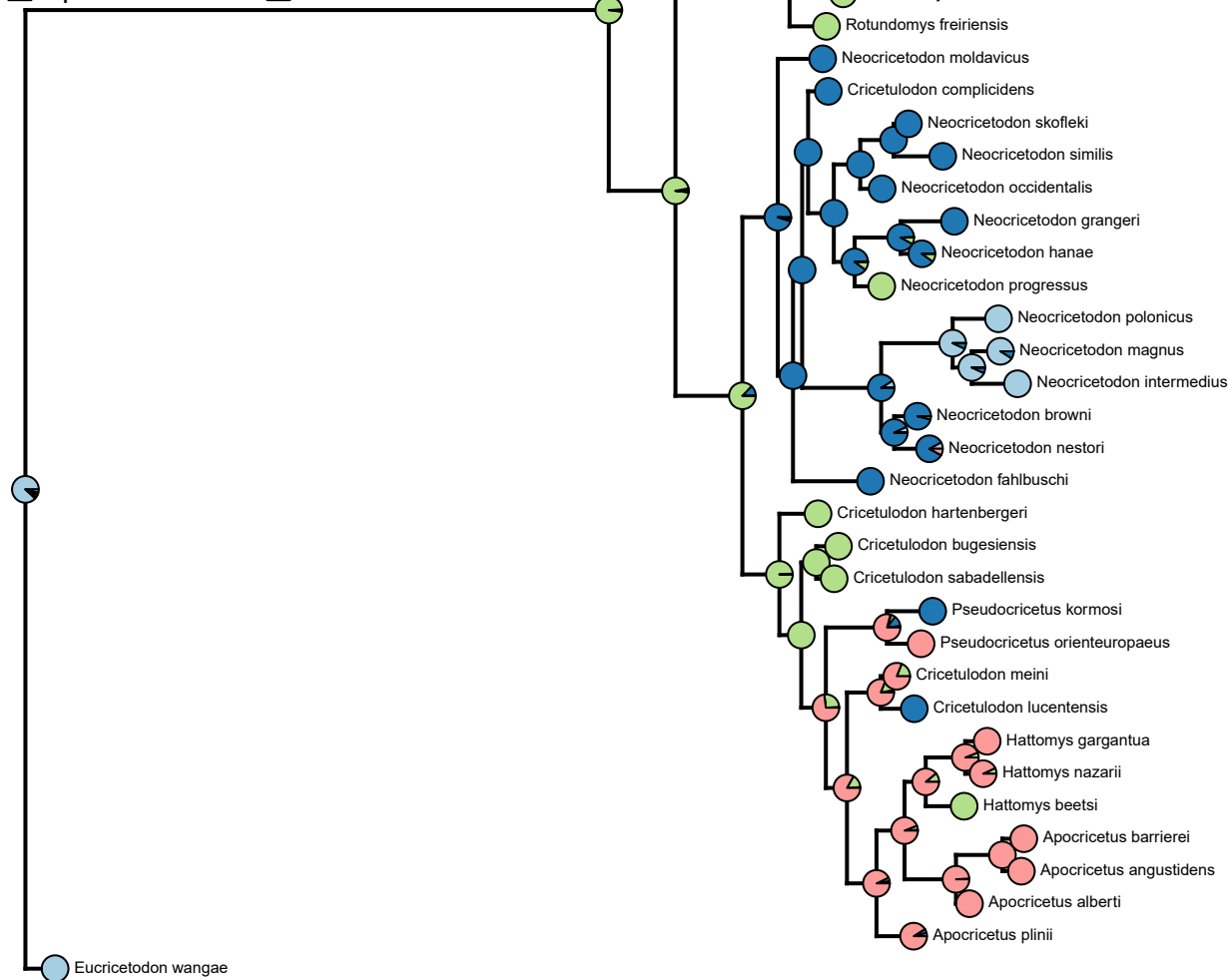
2 posterior



1 double



4 absent

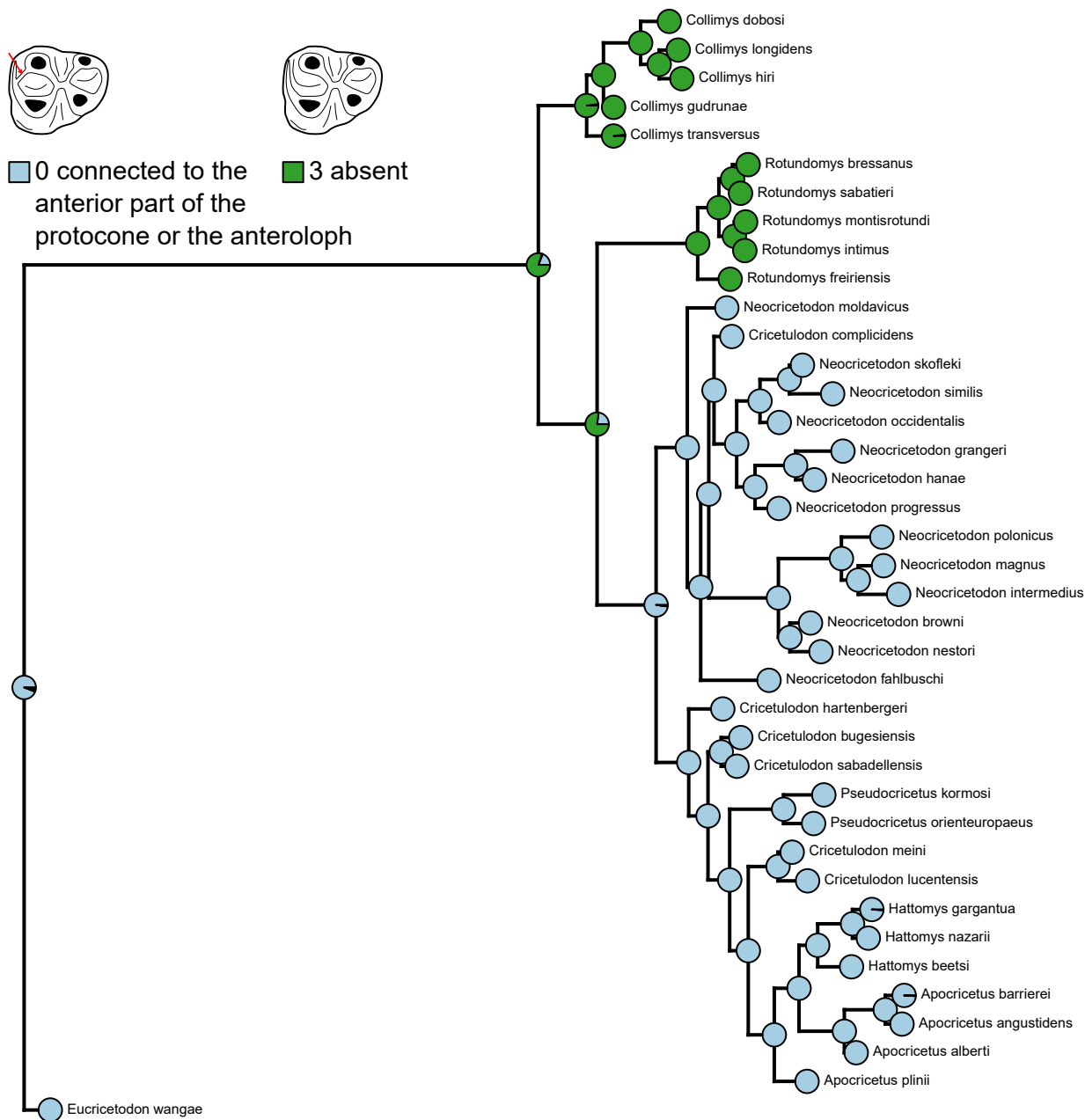


Ancestral state reconstruction of trait 47: M3 anterior protocone



■ 0 connected to the anterior part of the protocone or the anteroloph

■ 3 absent



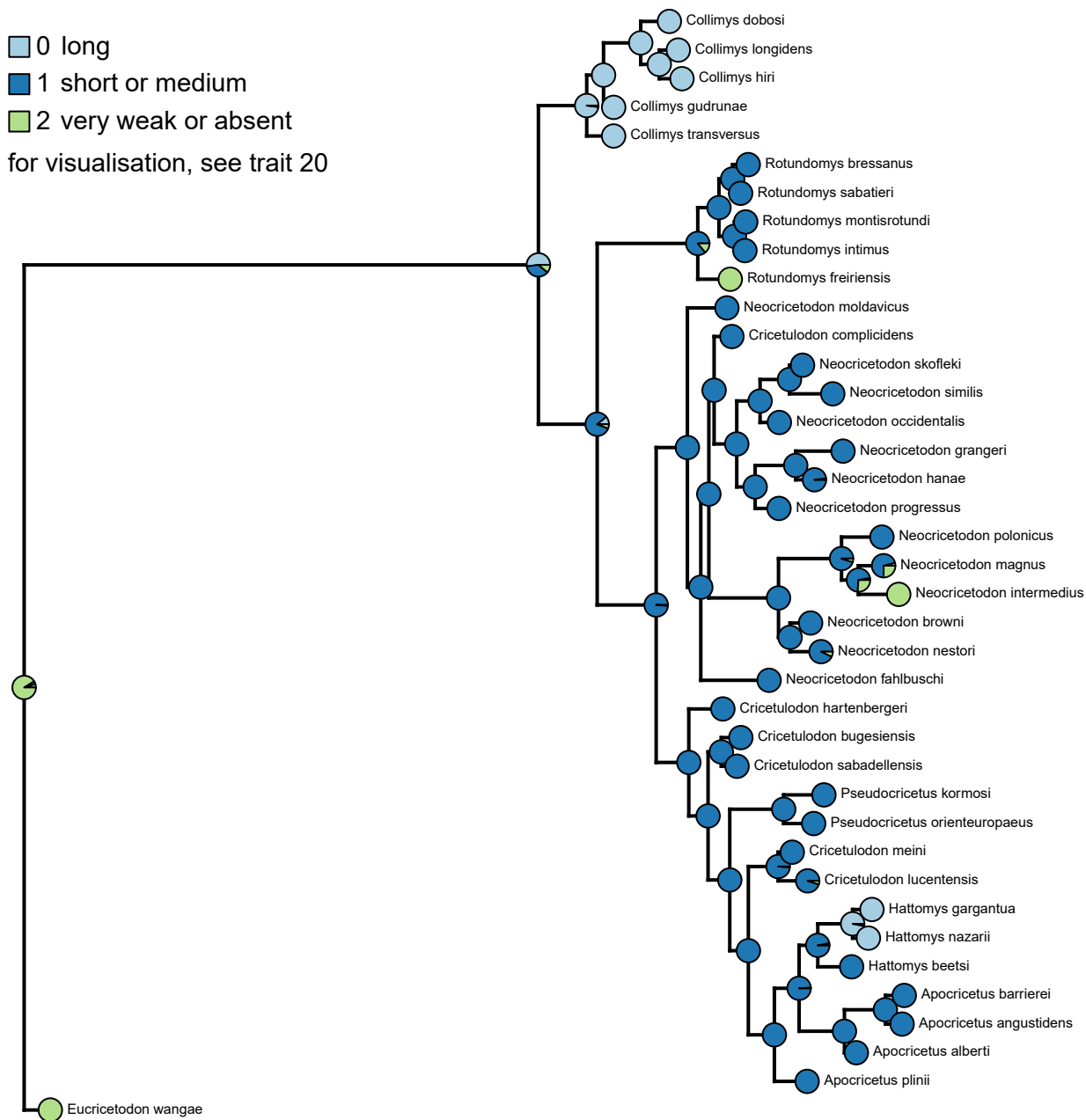
Ancestral state reconstruction of trait 49: M3 mesoloph

0 long

1 short or medium

2 very weak or absent

for visualisation, see trait 20

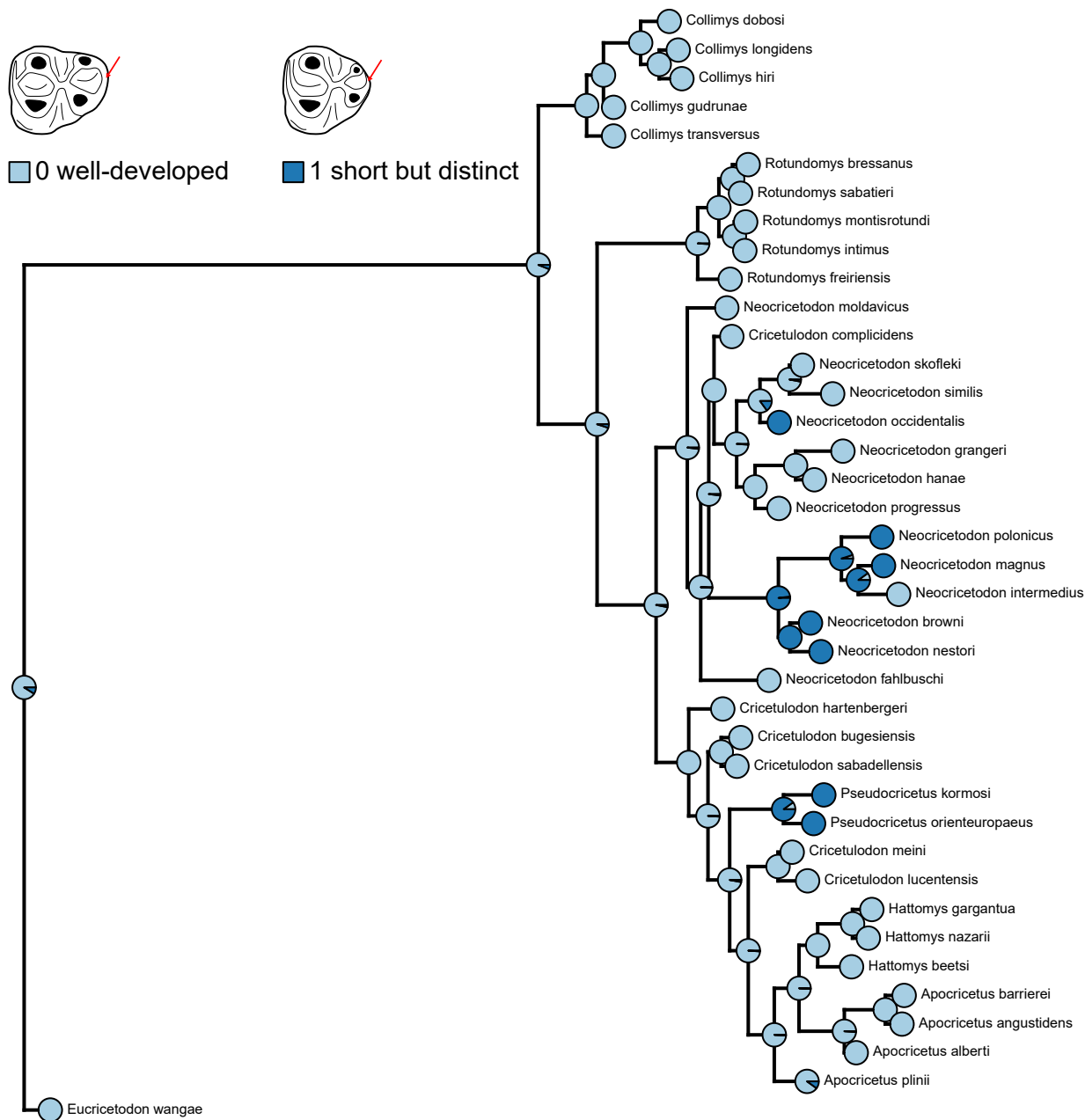


Ancestral state reconstruction of trait 56: M3 posteroloph

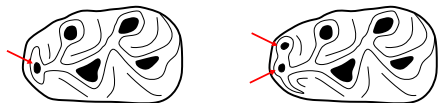


0 well-developed

1 short but distinct



Ancestral state reconstruction of trait 57: m1 anteroconid

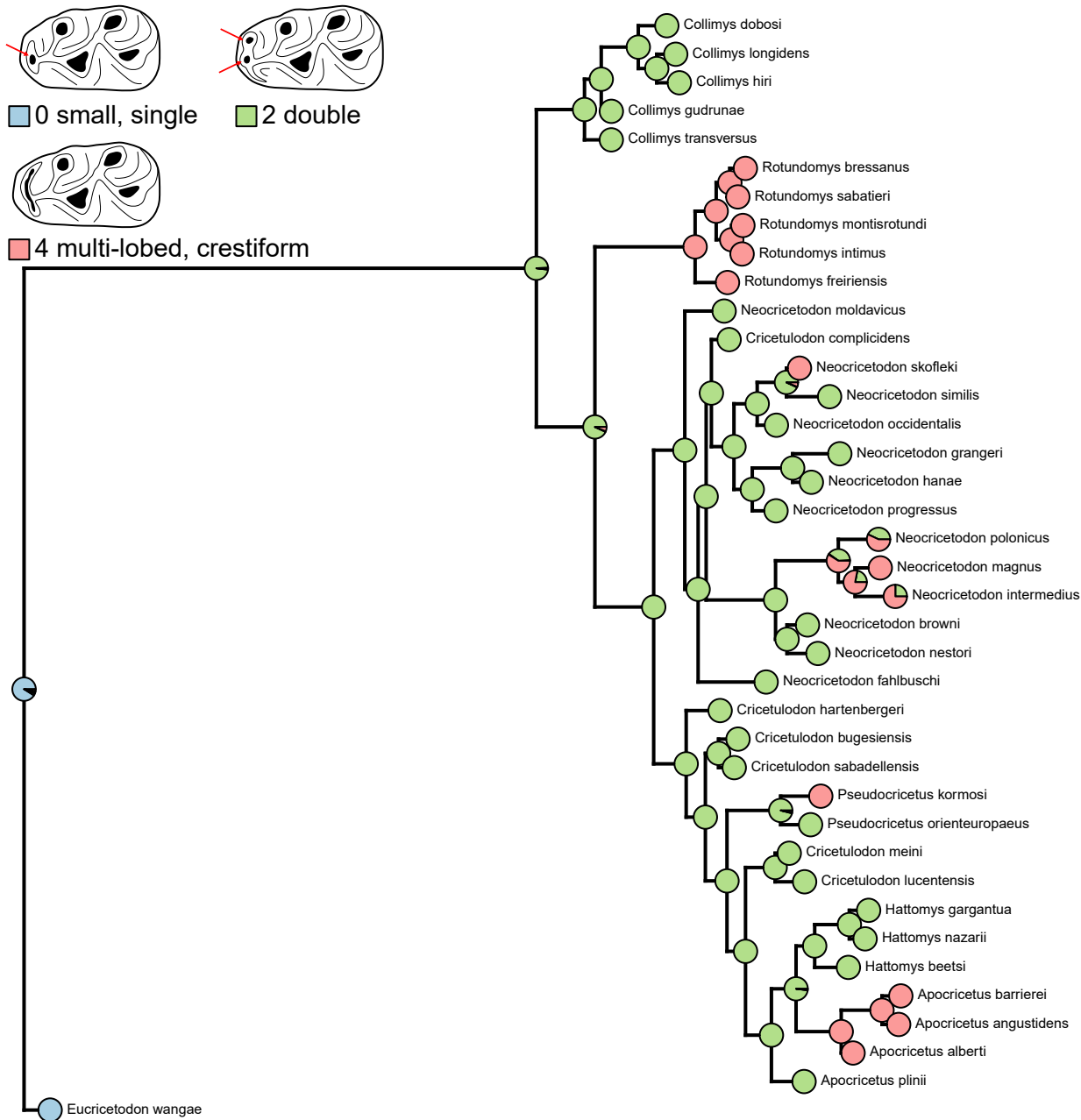


0 small, single

2 double



4 multi-lobed, crestiform



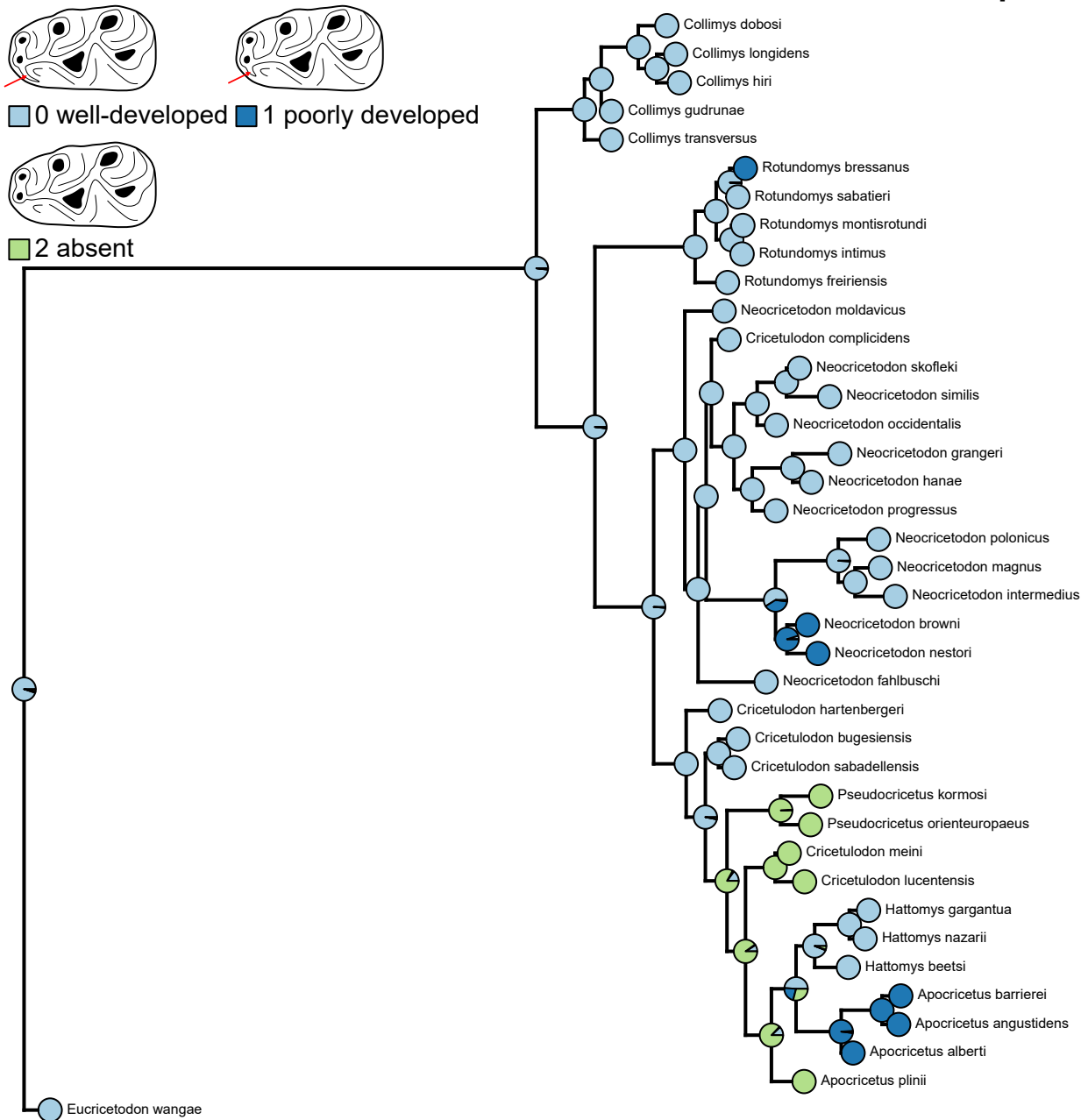
Ancestral state reconstruction of trait 60: m1 labial anterolophid



0 well-developed 1 poorly developed



2 absent



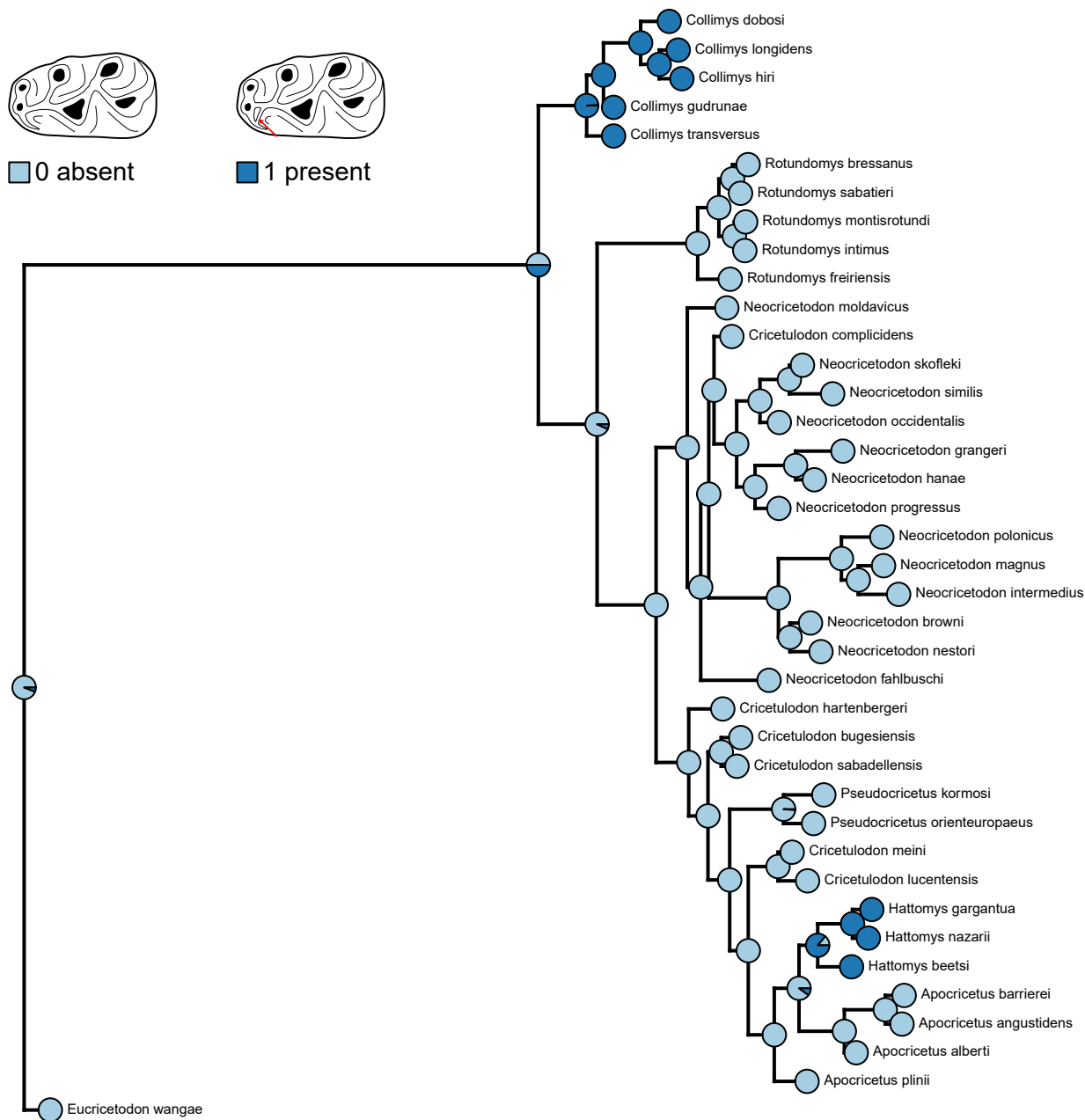
Ancestral state reconstruction of trait 64: m1 labial spur of the anterolophulid



0 absent



1 present



Ancestral state reconstruction of trait 66: m1 mesolophid



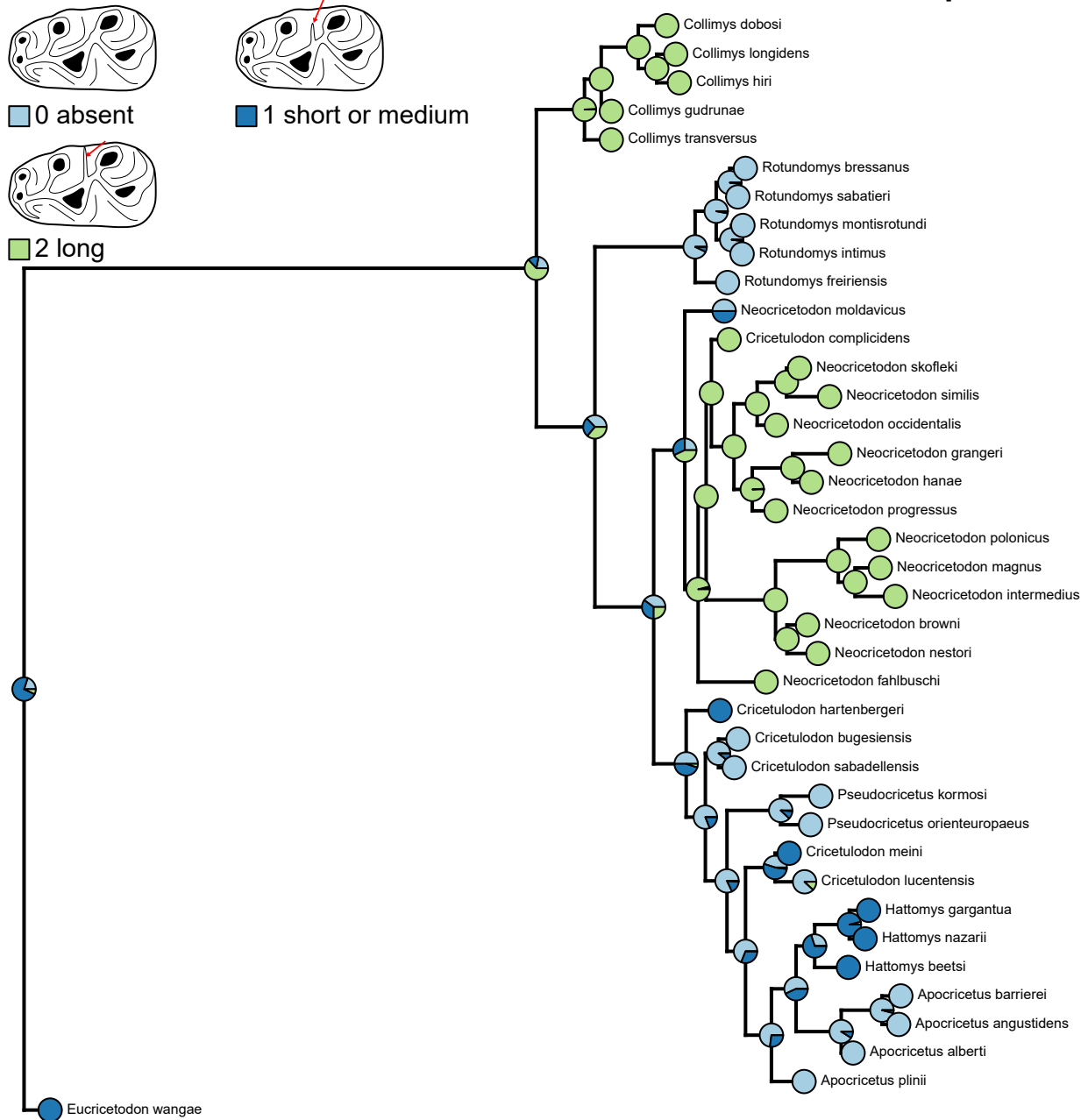
0 absent



1 short or medium



2 long



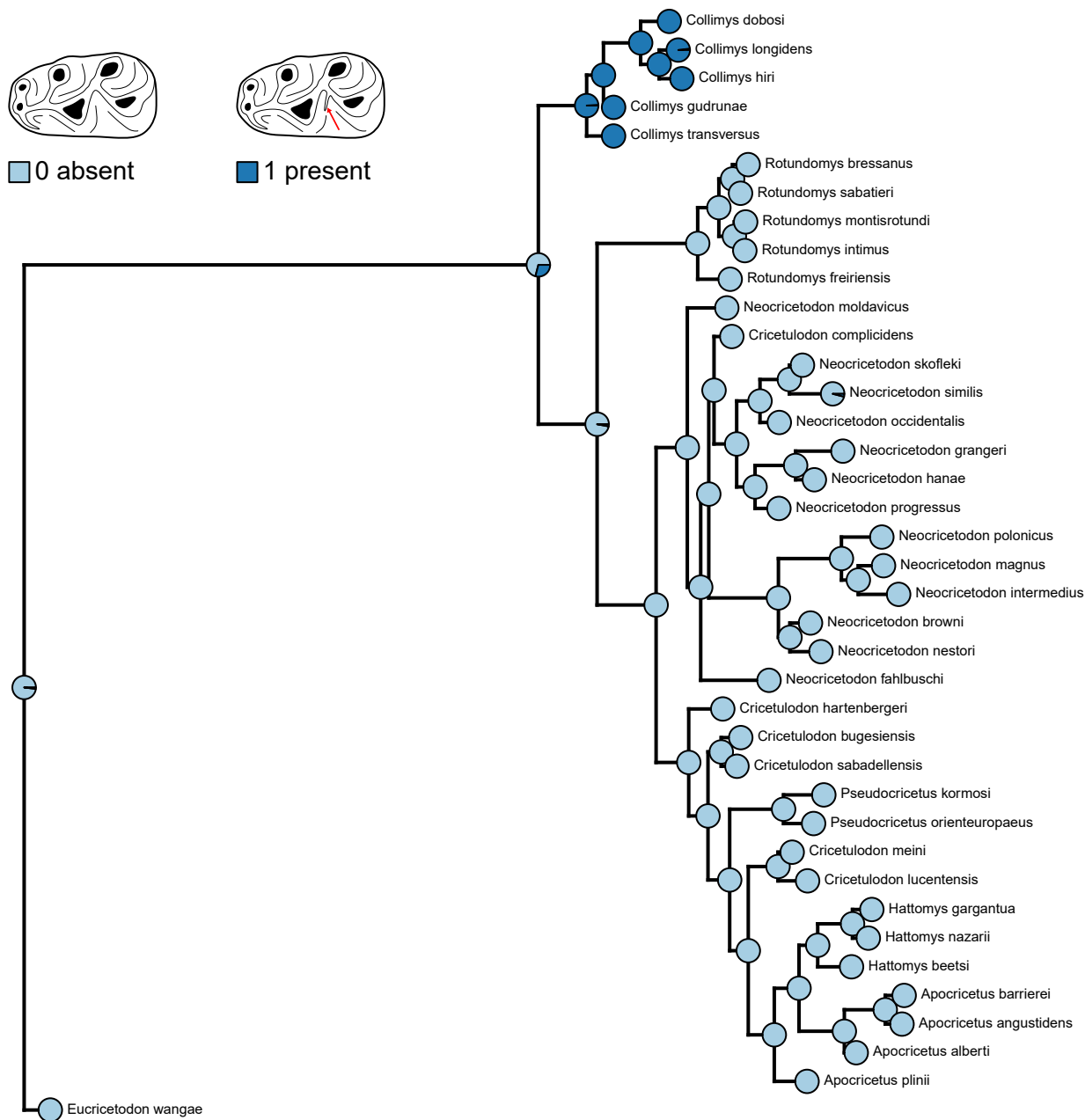
Ancestral state reconstruction of trait 68: m1 ectomesolophid



0 absent



1 present



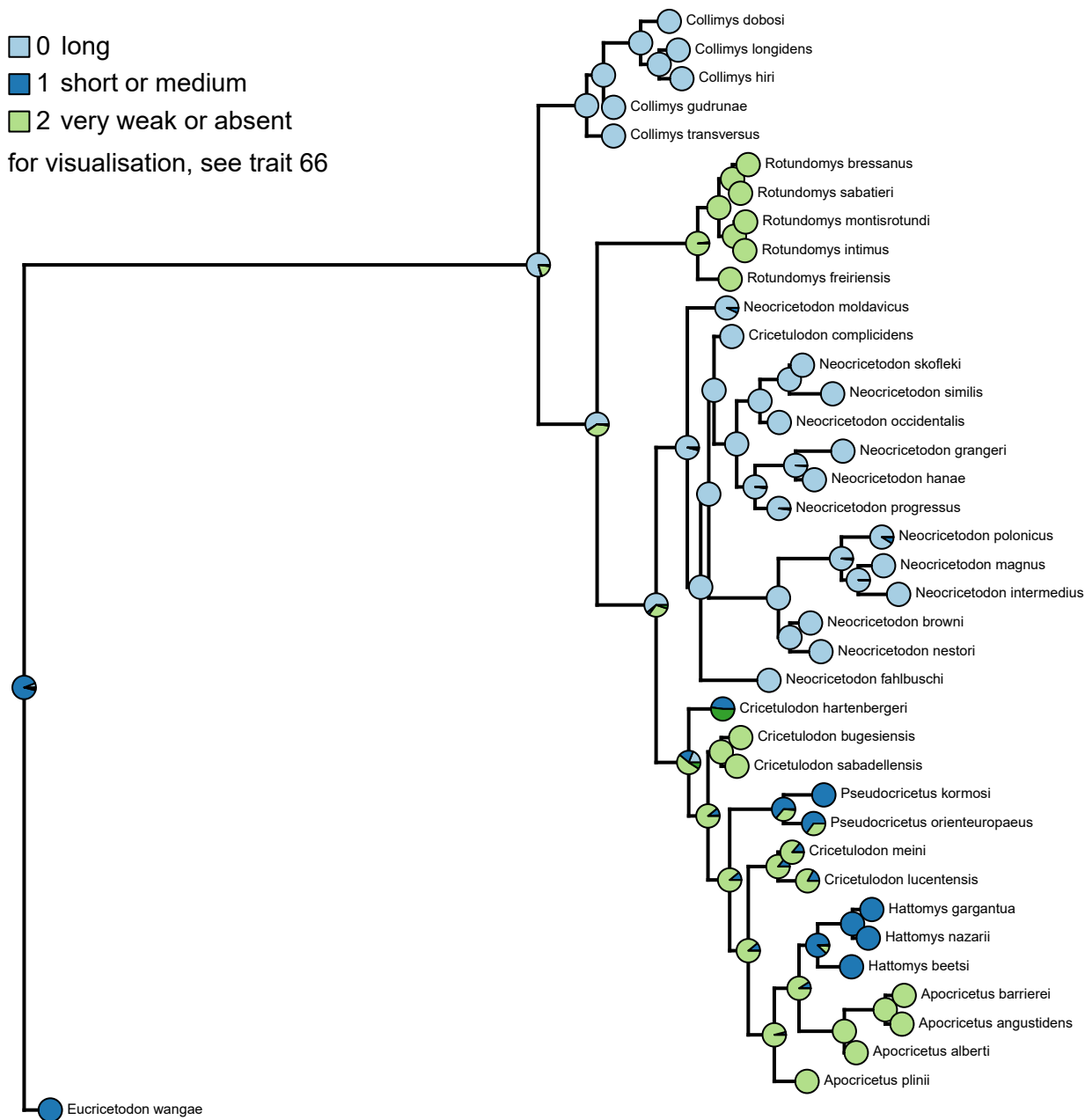
Ancestral state reconstruction of trait 73: m2 mesolophid

0 long

1 short or medium

2 very weak or absent

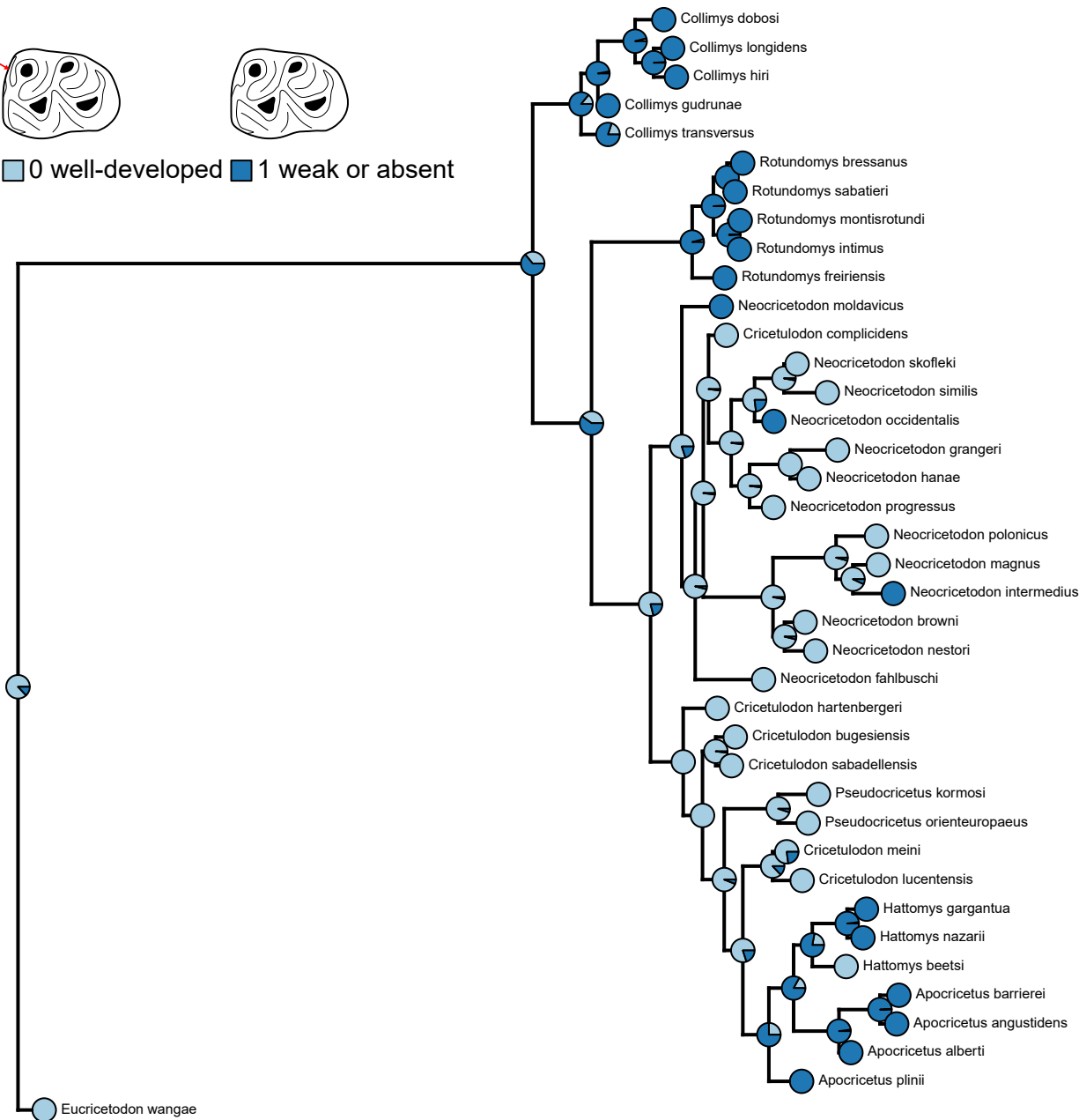
for visualisation, see trait 66



Ancestral state reconstruction of trait 73: m3 lingual anterolophid



■ 0 well-developed ■ 1 weak or absent



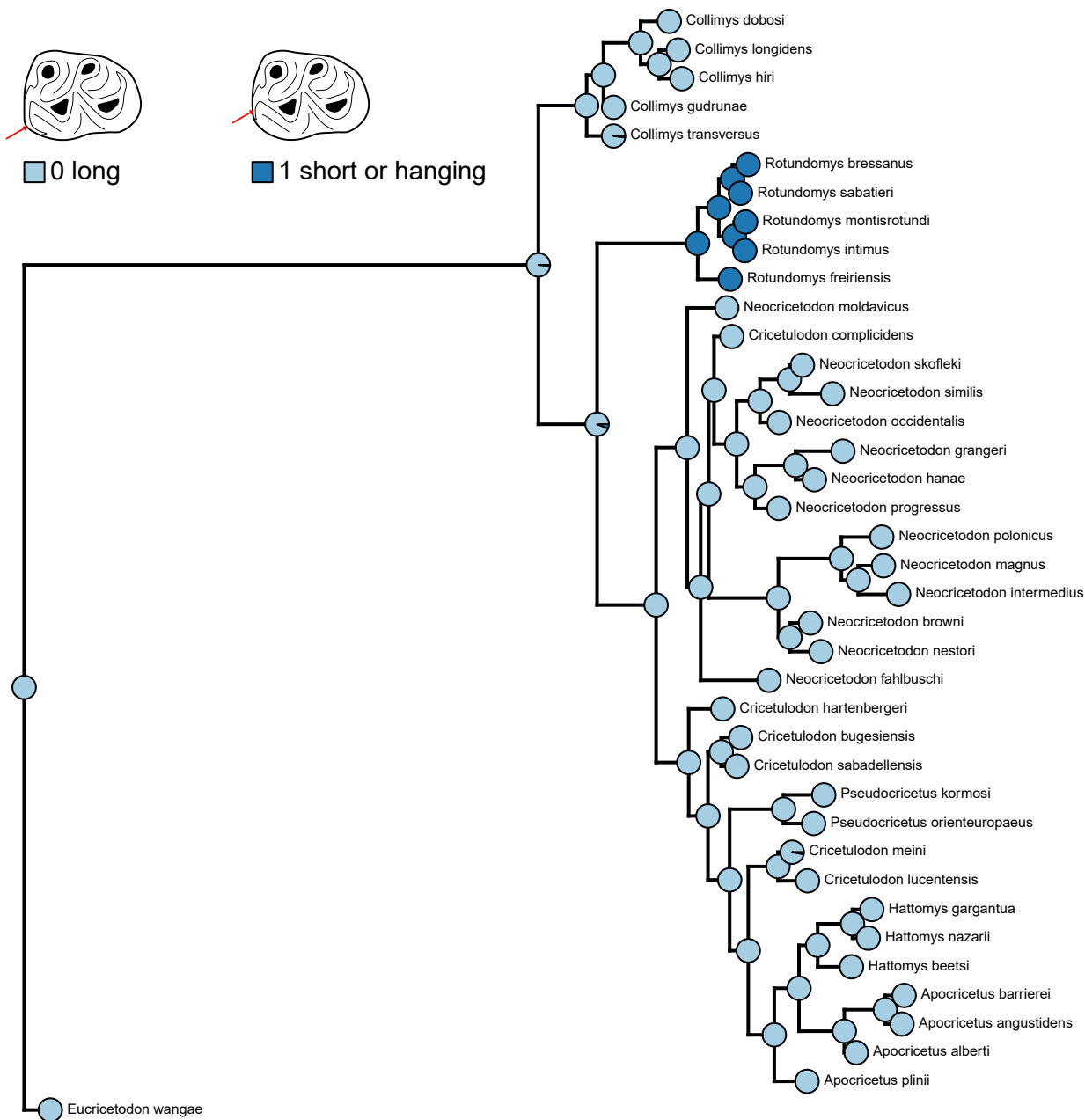
Ancestral state reconstruction of trait 88: m3 labial anterolophid



0 long



1 short or hanging



Ancestral state reconstruction of trait 103: M1 labial spur of the anterolophule



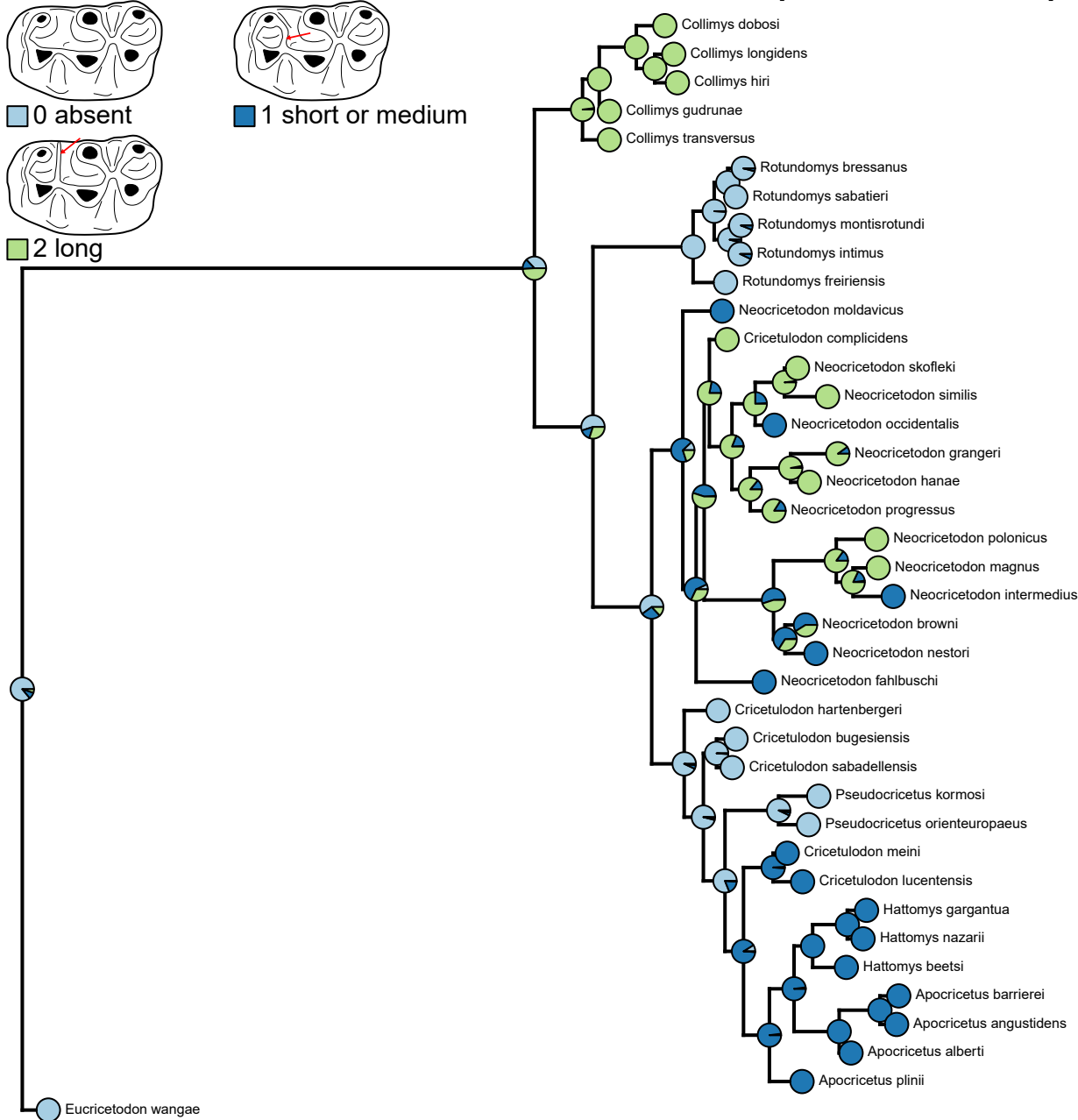
0 absent



1 short or medium



2 long



Ancestral state reconstruction of trait 109: m1 hypolophulid



■ 2 connected to the longitudinal crest
 ■ 5 connected to the mesolophid

