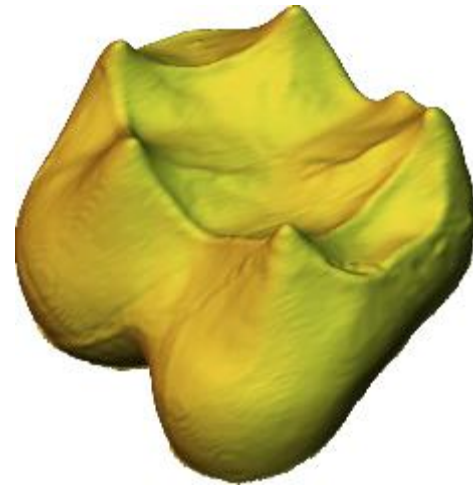
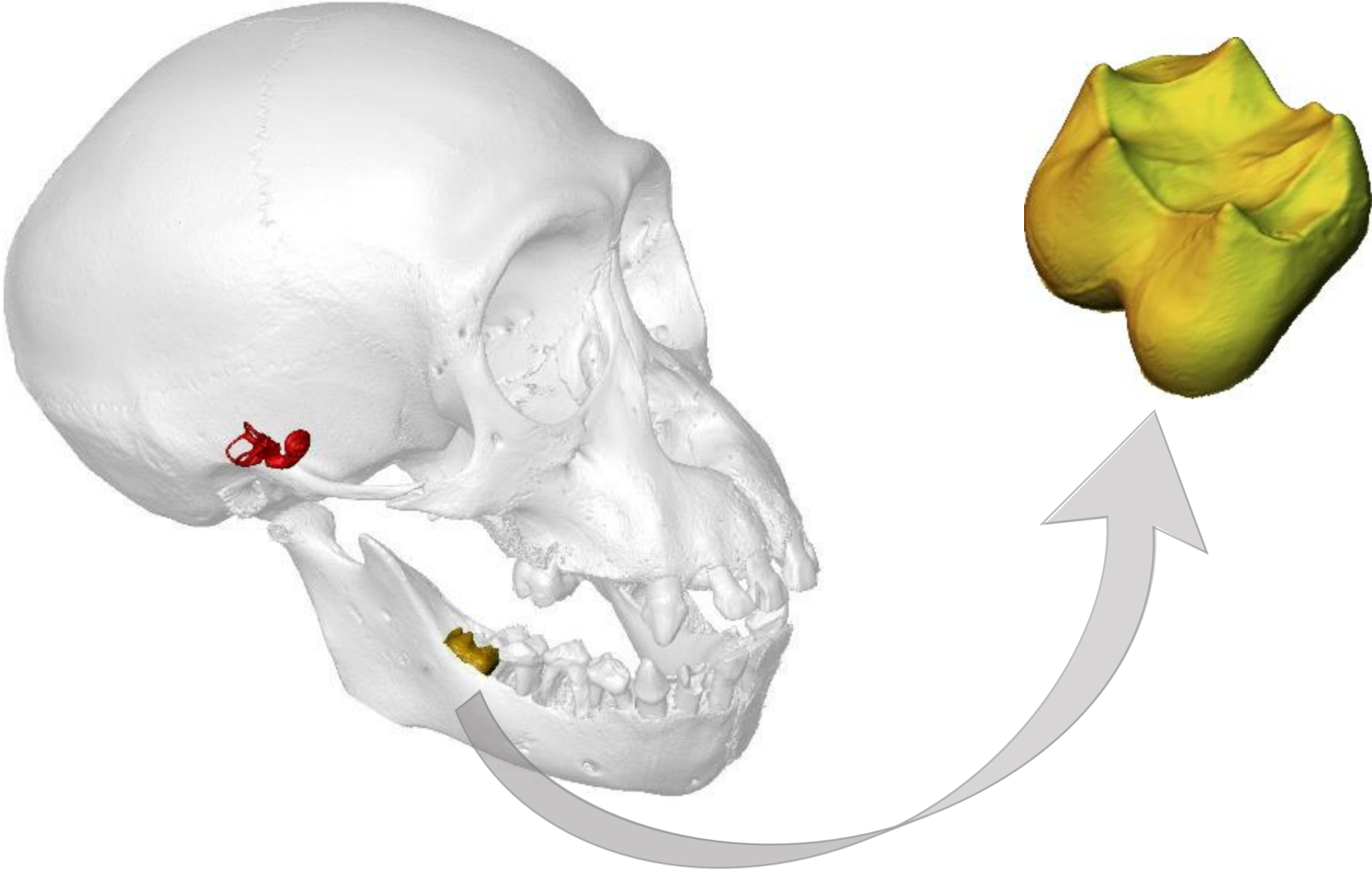


The phylogenetic signal of the enamel-dentine junction of primate molars

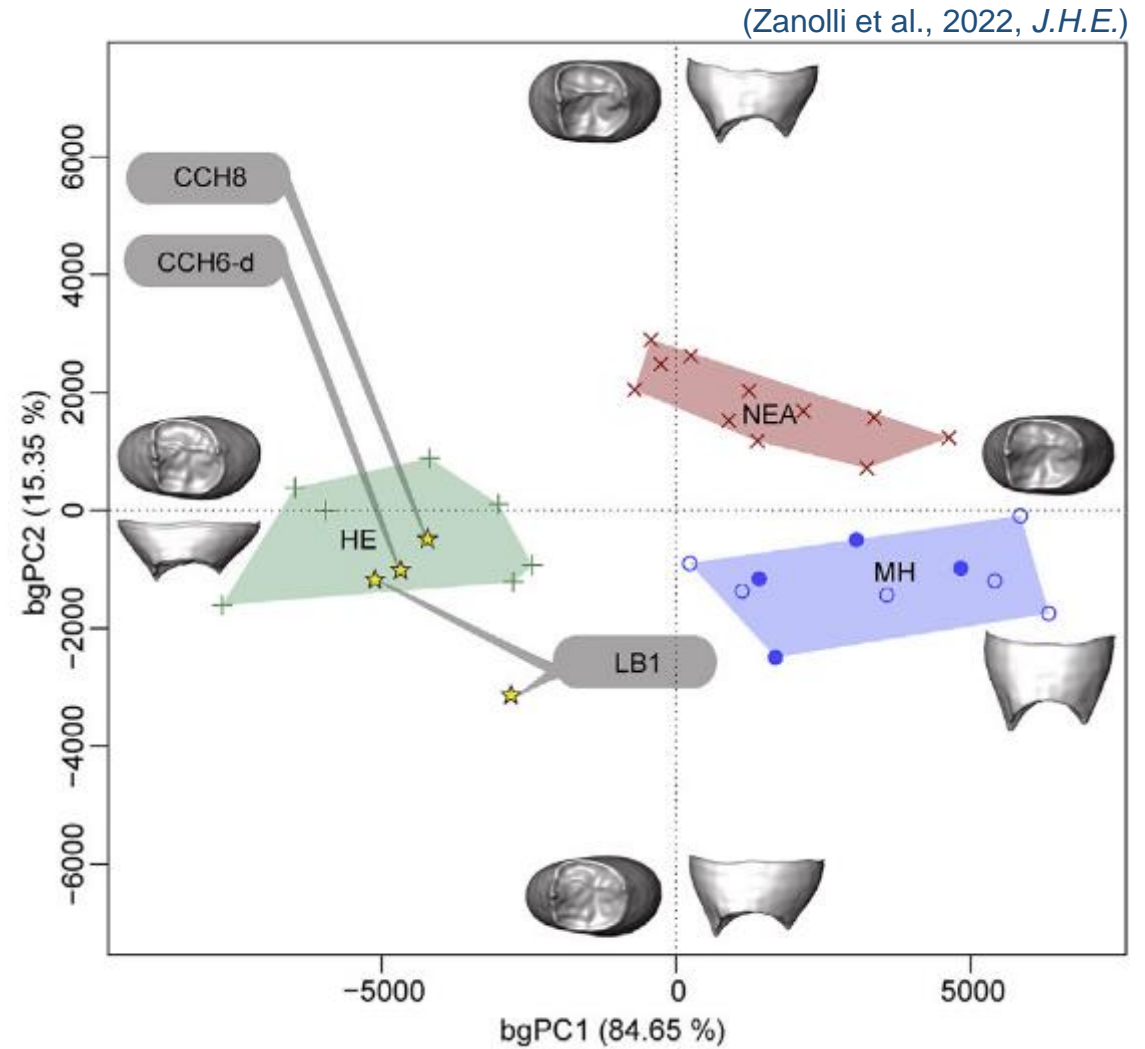
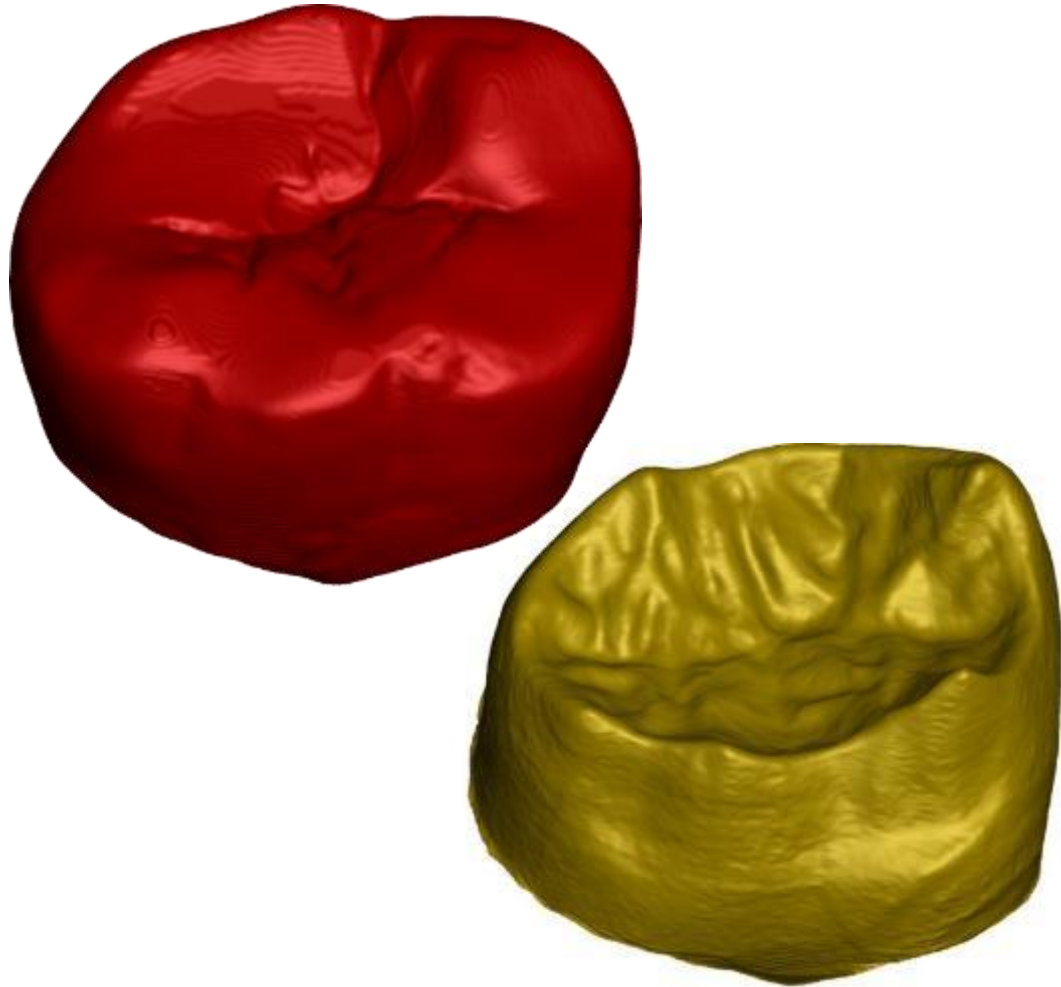


Clément Zanolli, Alessandro Urciuoli, Miguel Delgado, Thomas W. Davies, Florian Bouchet, Josep Fortuny, Amélie Beaudet, David M. Alba, Ottmar Kullmer, Matthew M. Skinner

Cranio-dental structures developing early



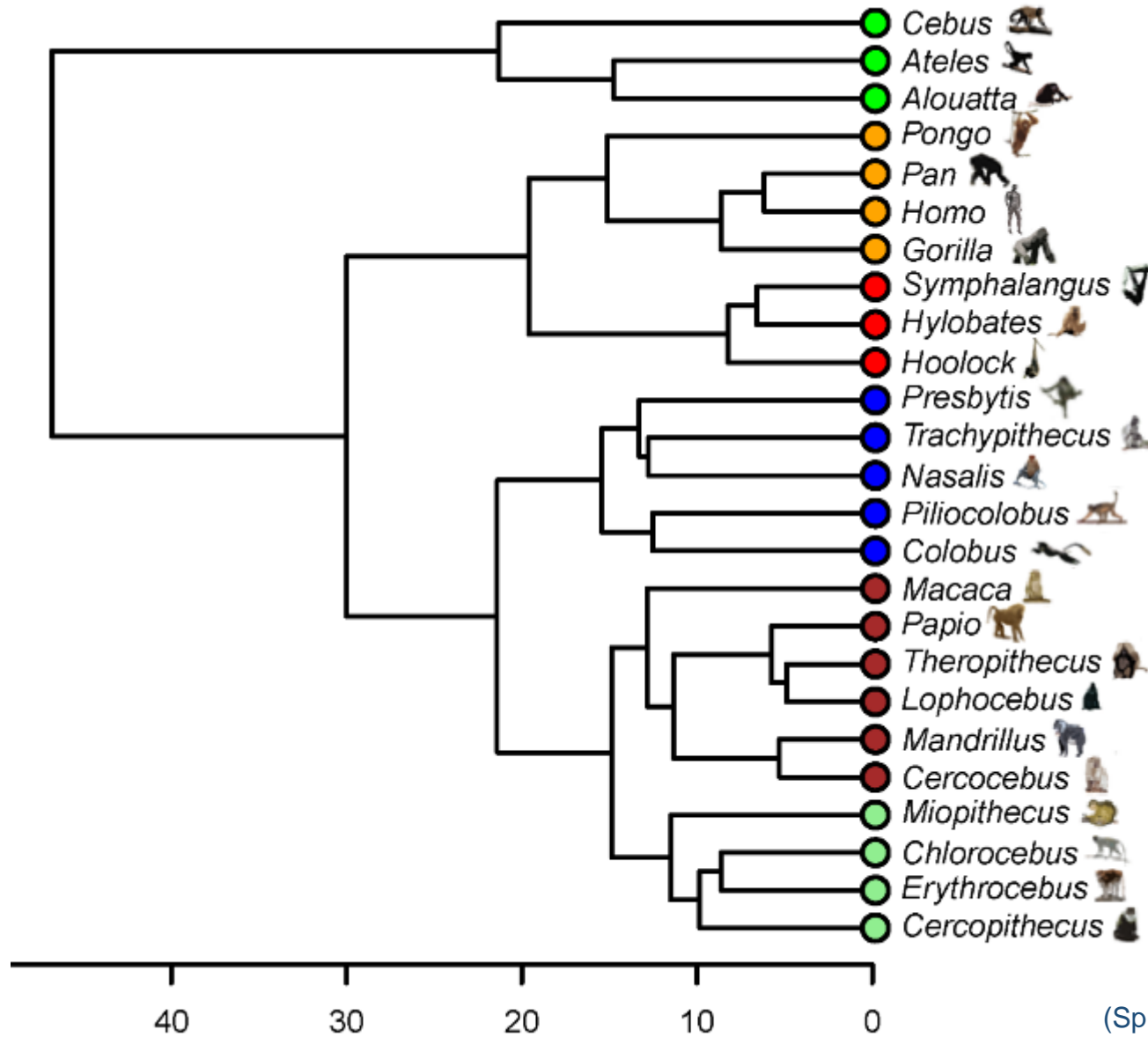
The enamel-dentine junction (EDJ)



"EDJ morphology carries useful taxonomic and phylogenetic information"

(Skinner et al., 2008, *J.H.E.*)

Primate molecular phylogeny

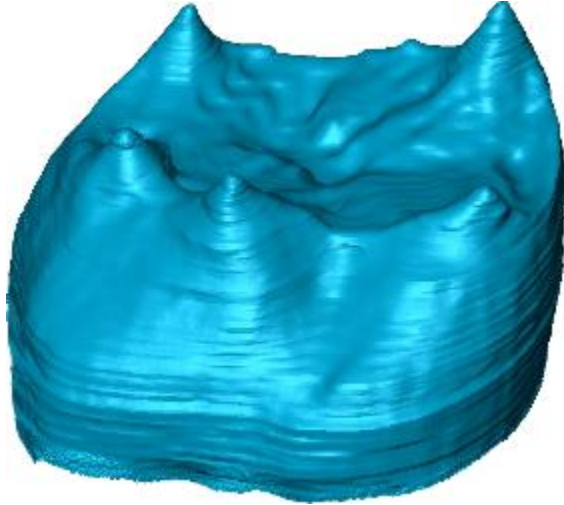


$n = 10 M_1/\text{genus}$

(Springer et al., 2012, *PLoS One*)

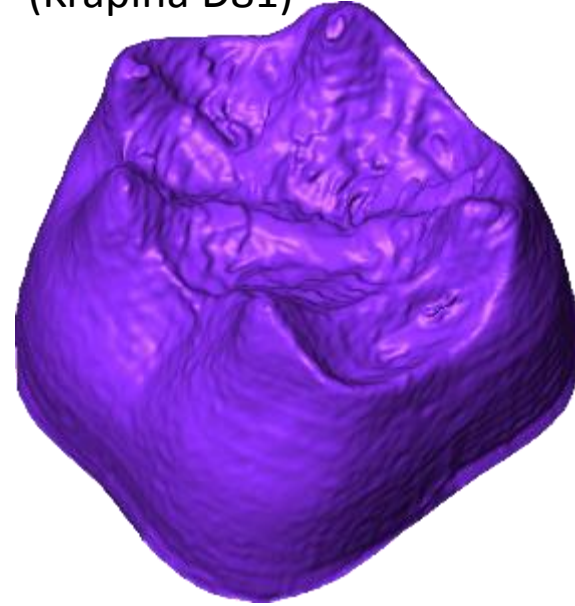
Fossil specimens

12.5–11.1 Ma



Dryopithecus
(HARLE 46)

Neanderthal
(Krapina D81)

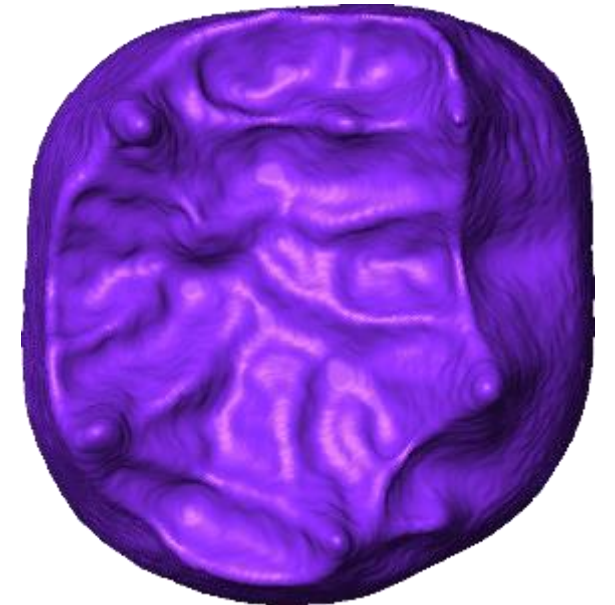


Neanderthal
(Krapina D77)

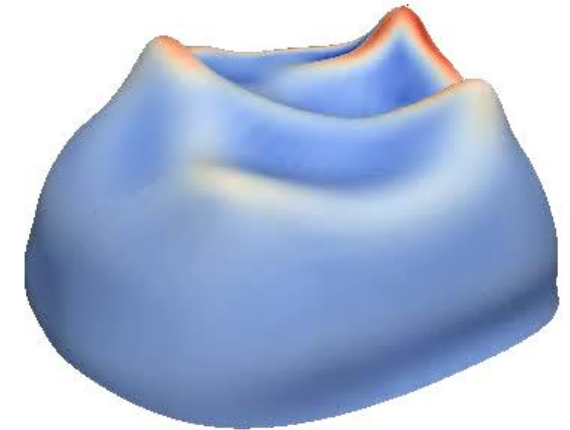
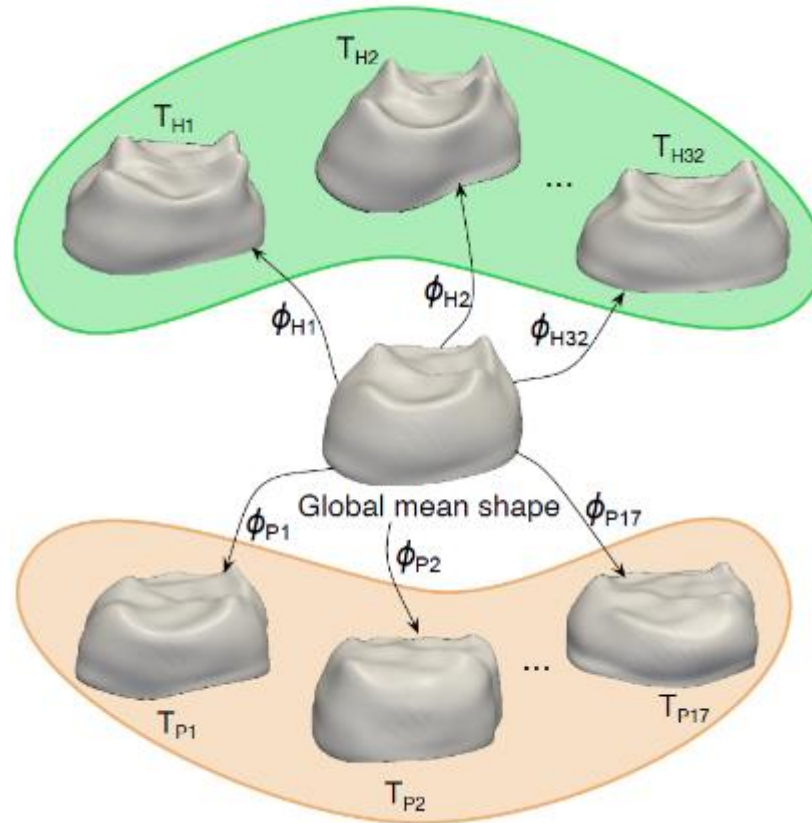
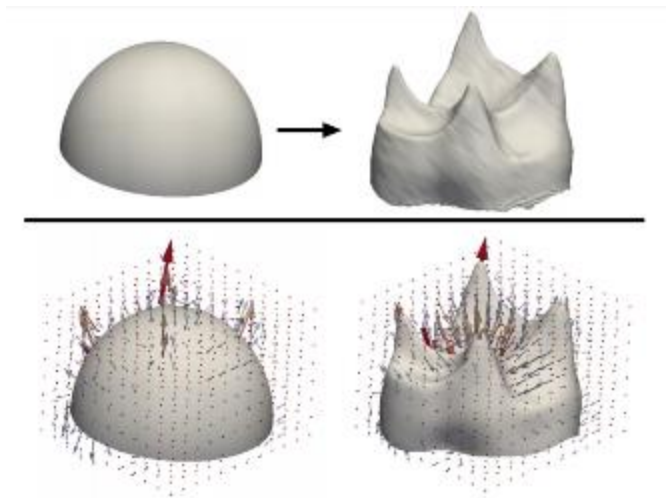


Neanderthal
(Roc de Marsal)

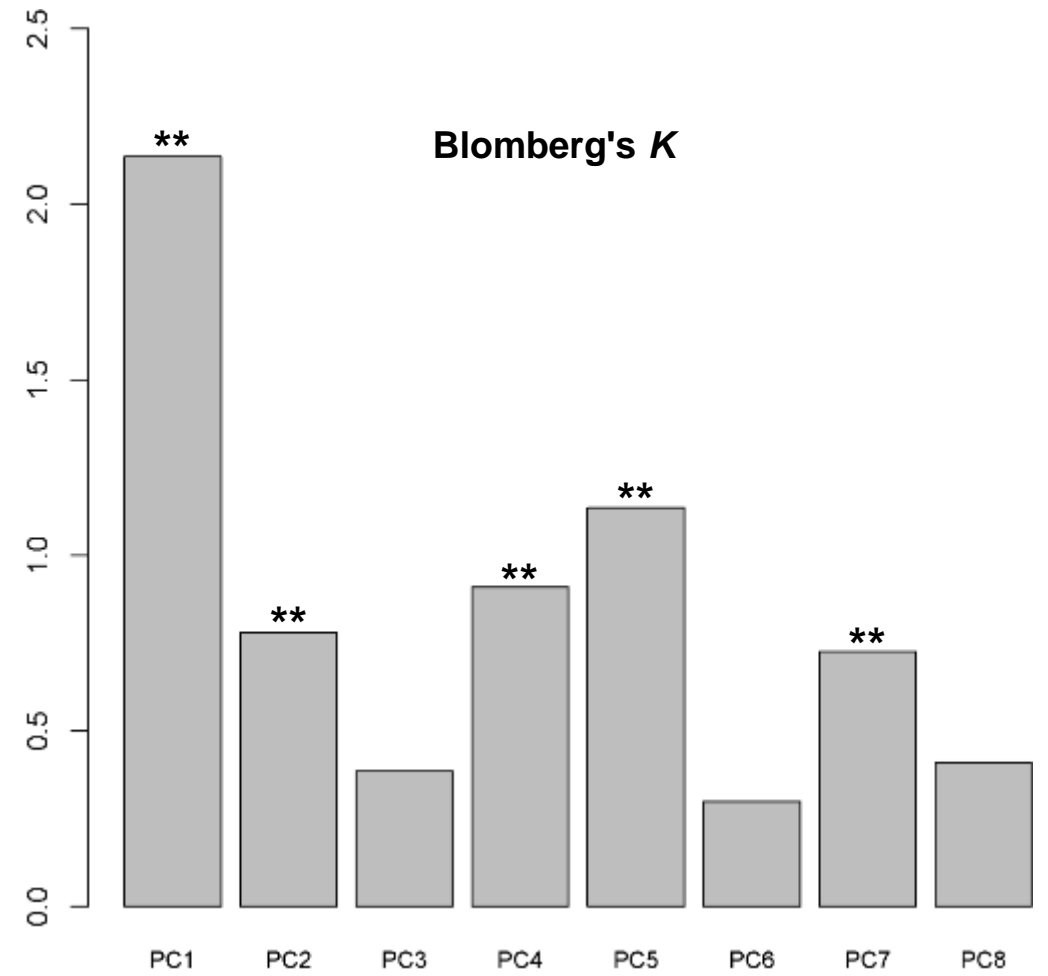
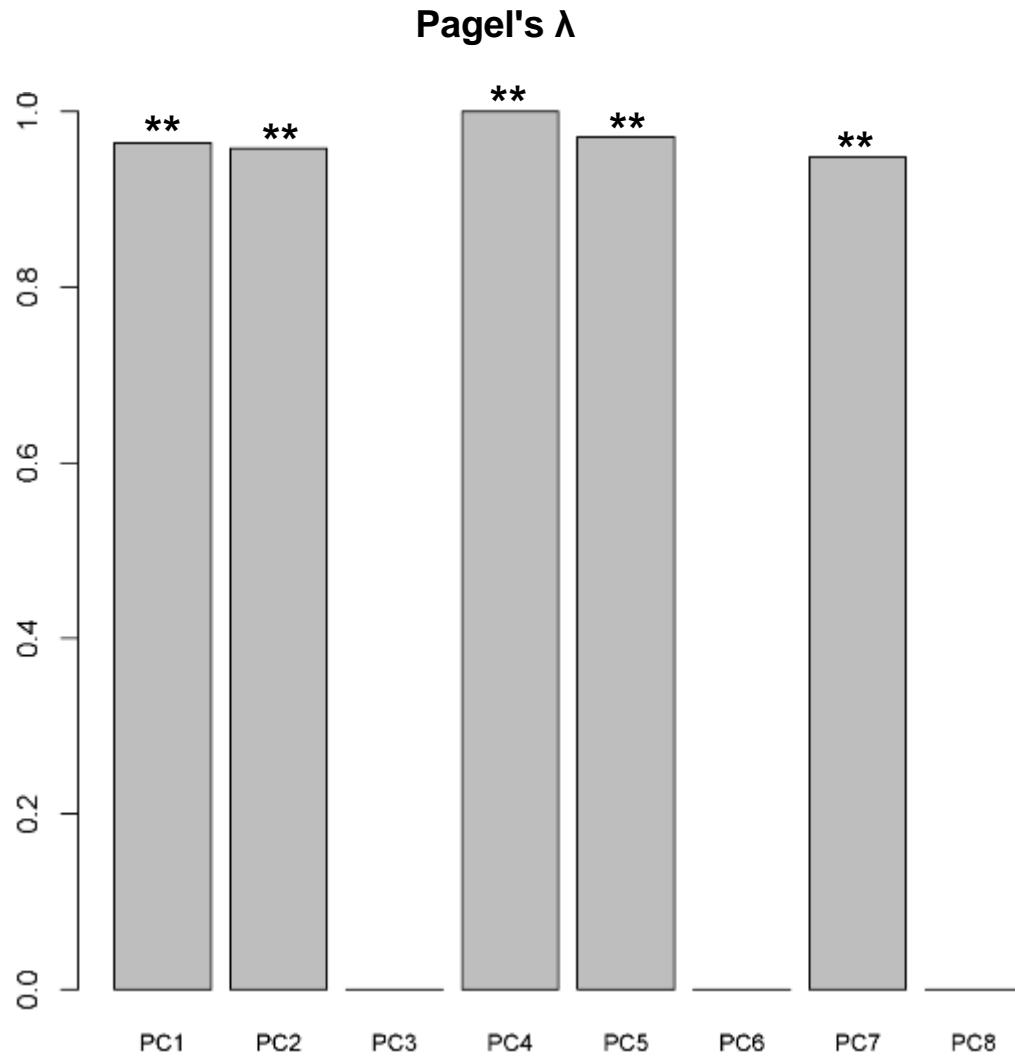
125–80 ka



Deformation-based geometric morphometrics

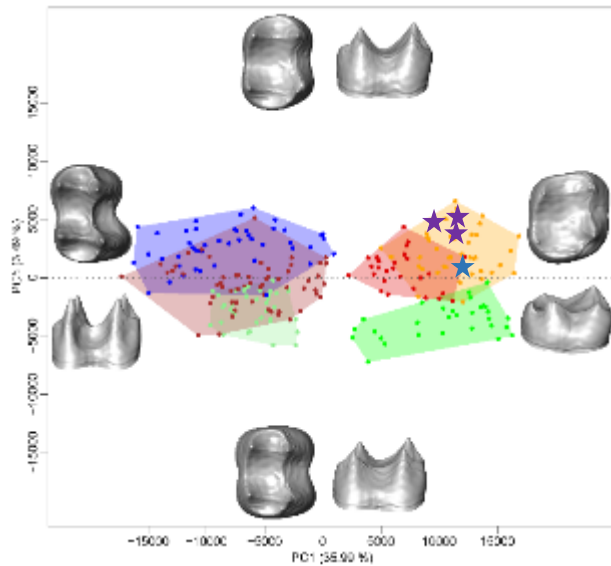
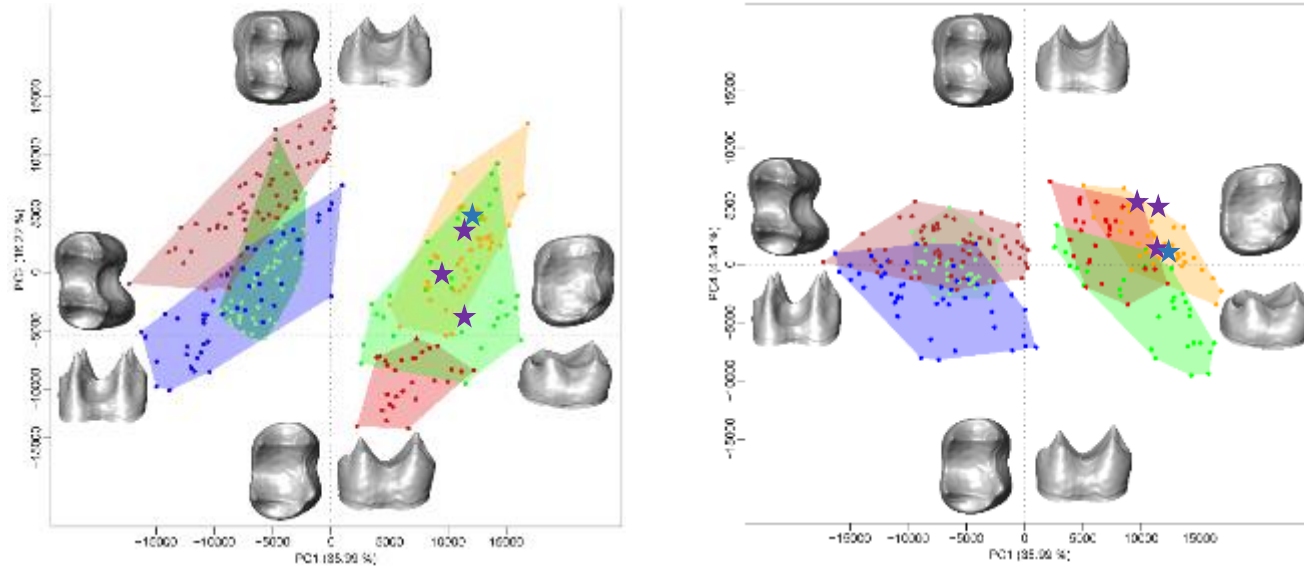


Phylogenetic signal in PC scores



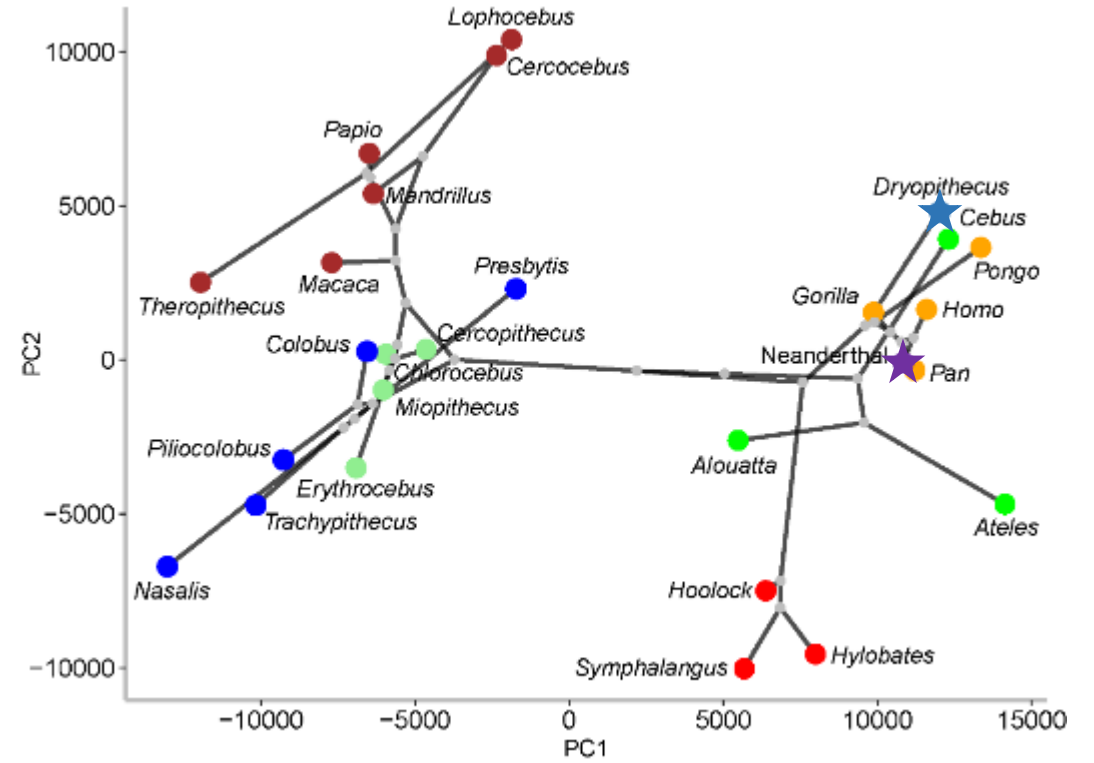
Multivariate Blomberg's K : 2.13 ($p < 0.001$)

PCA plots and phylomorphospace

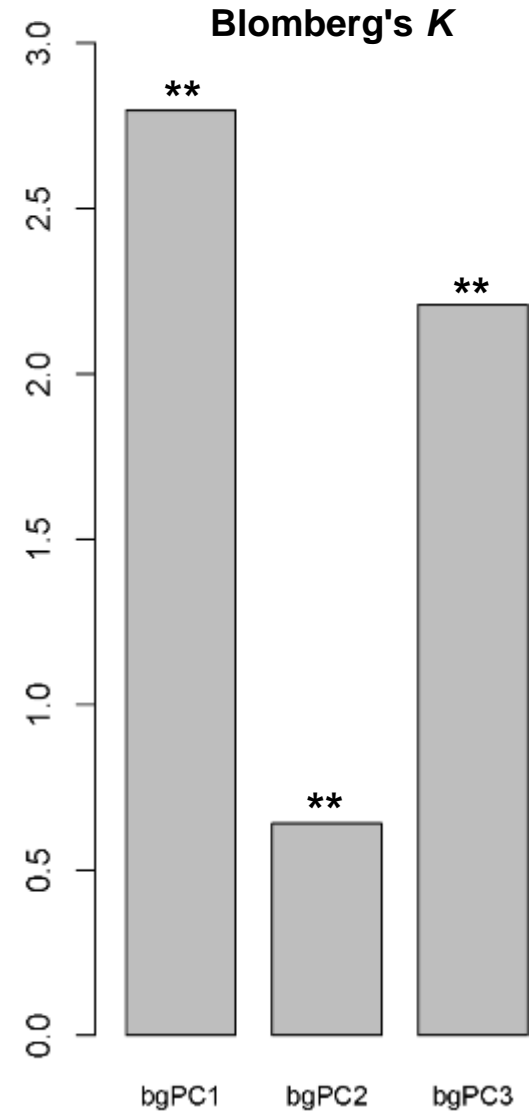
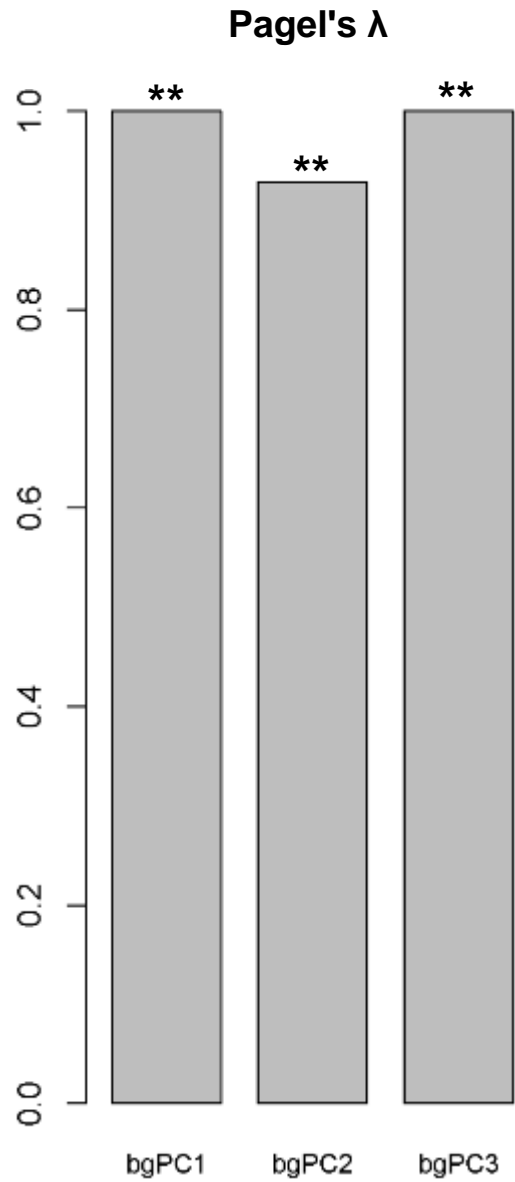


- Hominidae
- Hylobatidae
- Papionini
- Cercopithecini
- Colobinae
- Platyrrhini

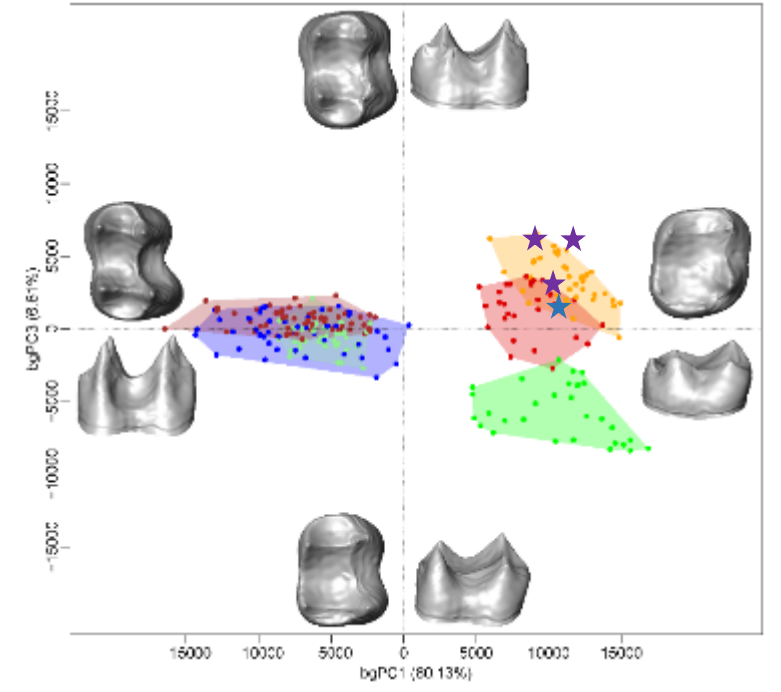
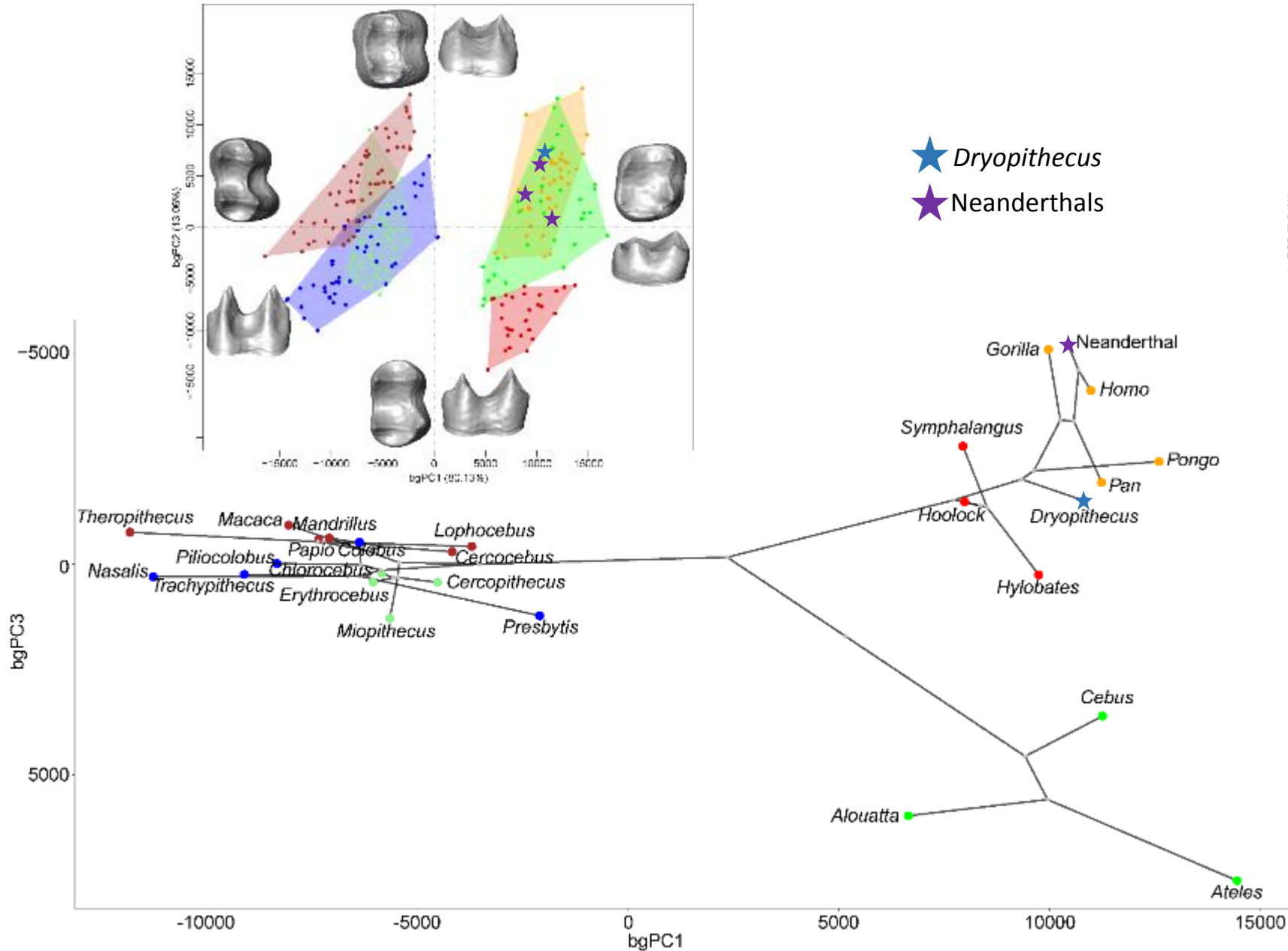
- ★ *Dryopithecus*
- ★ Neanderthals



Phylogenetic signal in bgPC scores

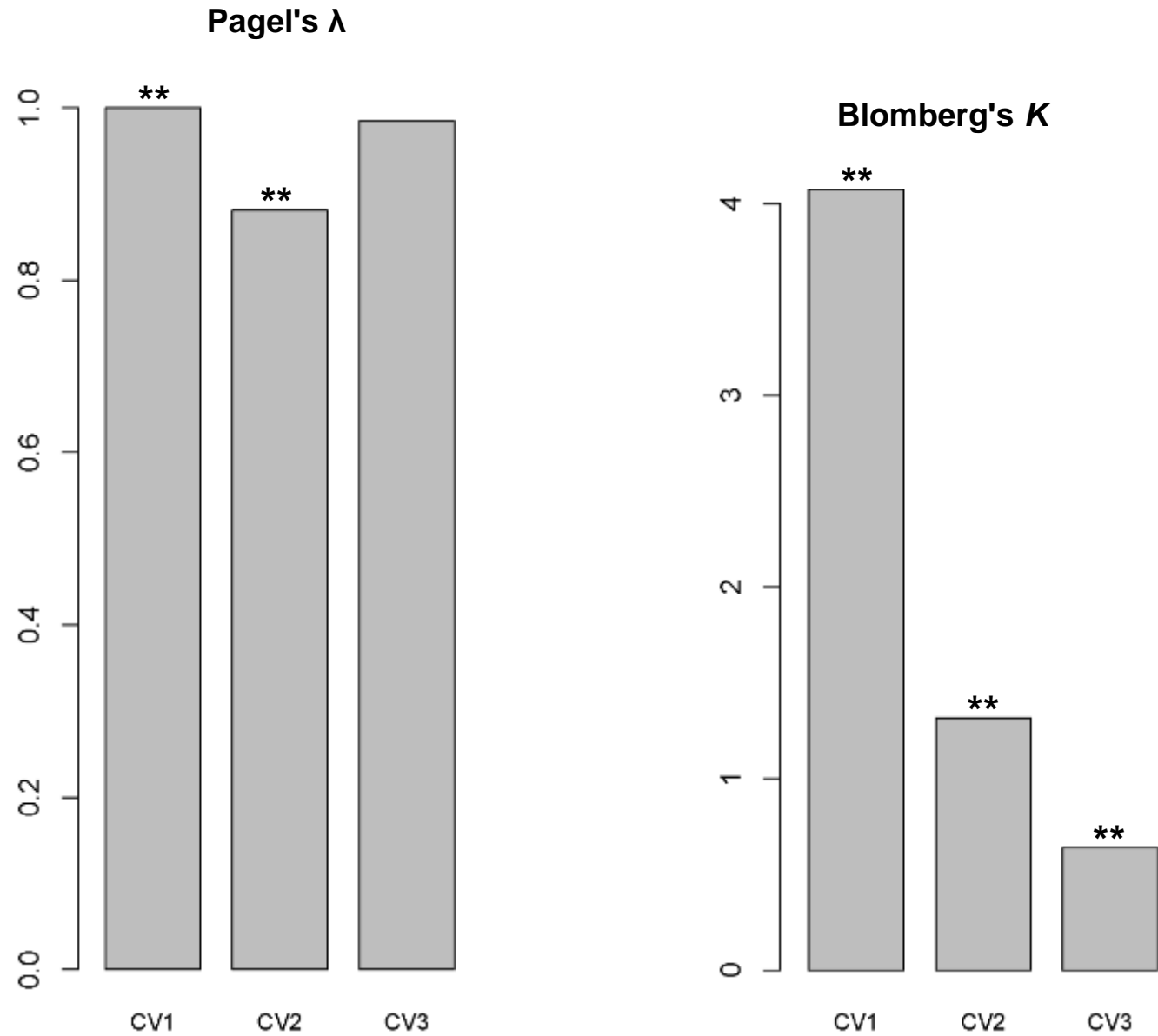


bgPCA plots and phylomorphospace

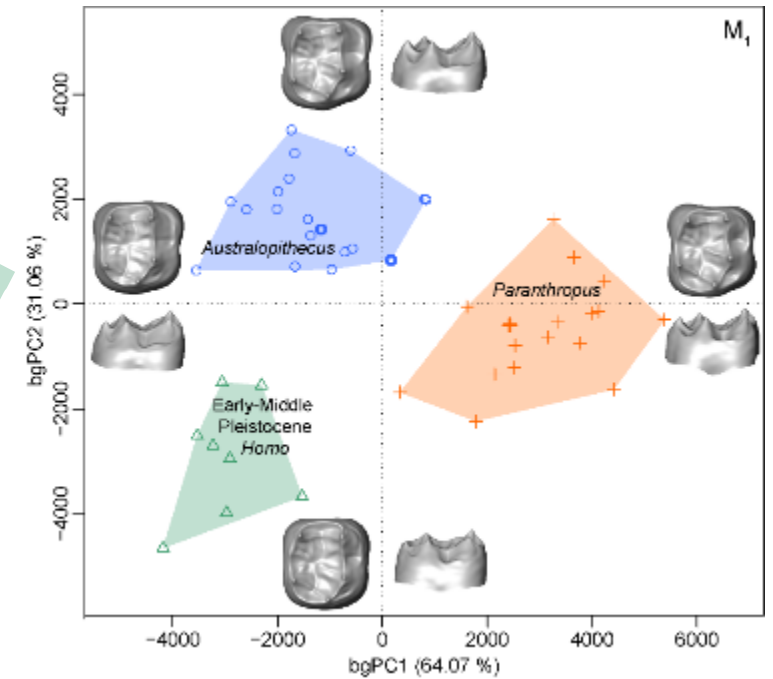
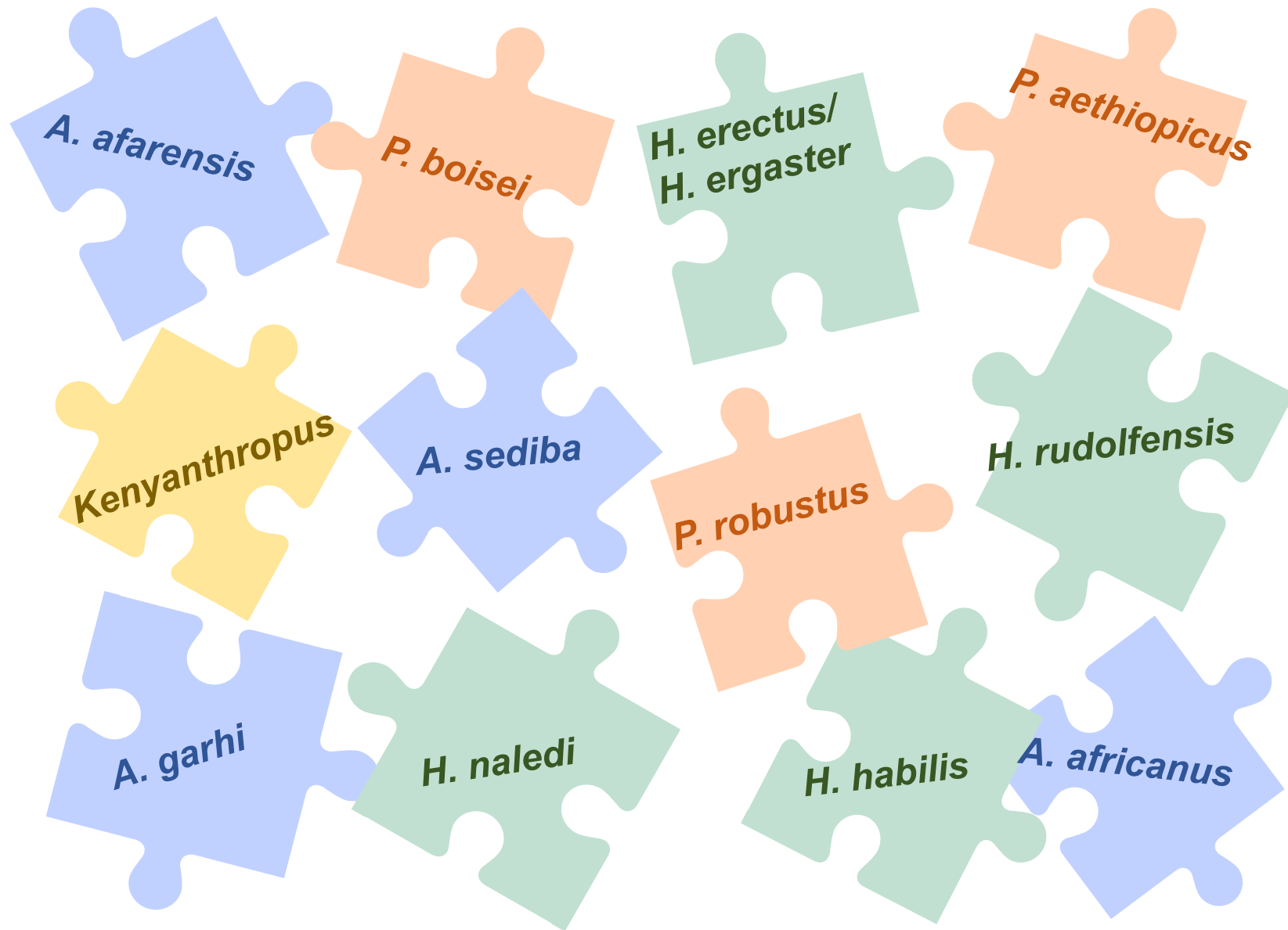


- Hominidae
- Hylobatidae
- Papionini
- Cercopithecini
- Colobinae
- Platyrrhini

Phylogenetic signal in CV scores and CVA plots



Hominin paleodiversity and phylogenetic relationships



Acknowledgments

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